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"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

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Vol. 15 No. 10

Lisbon, North Dakota, April 15, 1914

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THE NORTH DAKOTA FARMER

Vol. 15, No. 10

LISBON N. D., APRIL 15, 1914

50 Cents a Year

AMERICAN GREED

By President J. H. Worst, N. D. A. C.

THE superabundance of natural resources in the form of standing timber, coal, gas, mineral oil and soil fertility,—found in this great country of ours, has bred and fostered a malignant form of greed. This disease, for it is nothing else, is widespread and harmful. It strikes deep at the very roots of patriotism. A country is worth loving only when it affords a good living for reasonable labor. A country despoiled of its natural resources will not do this. Moreover, in the race for inordinate wealth a comparatively small number of individuals, by practicing the most wasteful methods, destroy millions of natural wealth in order to secure thousands for their private bank accounts.

At the present time the lumbering interests of the Pacific Coast complain bitterly of the small margin of profits in their business on account of limited demand for lumber. The fact is, large areas of timber have been purchased and their owners desire ready money; hence the most wasteful methods are employed to get a modicum of their actual value into the form of immediate cash. What do they care for the future? What they want is money and they want it right now, whether posterity has any timber or not.

As a matter of fact these men are only human. You and I would, perhaps, feel and act in a similar manner. But it is most unwise on the part of the government, either state or national, to permit such gifts of nature to fall into the hands of mere exploiters. What God created for mankind should not be exploited for the benefit of a few. Timber, coal, etc., should be conserved by being utilized carefully and economically for the benefit of the greatest number and for the longest period of time.

Perhaps the most flagrant sin against a state's natural resources is the unscientific management of the

soil. The source of a nation's food supply is its most important asset and should not only be safeguarded by deterrent laws, but the education of those whose business it is to manage farms should be as technical and direct as that required for engineers or men in the professions. Only thus can the land be made to produce its maximum every year and improve rather than deteriorate in productive power.

Much is being done by way of education in agriculture in the schools, and by means of county agents on the farms; still there is nothing to prevent men from abusing the land and destroying its future usefulness, if they are so inclined. The fact that it was always thus seems to make any regulation of farming methods, other than by moral suasion or self-interest, seem ridiculous. Nevertheless, the people's food supply should not be left wholly to individual caprice. Every reasonable means should be employed to make the business of supplying the nation's food not only profitable but one of the most desirable and congenial vocations that men can engage in. This means at once that it shall become a learned profession; that those engaged in agriculture shall rank intellectually with those of other professions; for until young men find in farming pursuits as good a market for their brains as they find in the professions or in merchandising, they will choose the latter and leave agriculture to less ambitious men.

I do not contend for a sudden revolution of sentiment and practice in rural vocations, such as here indicated, but ultimately; for the future demands that will be made upon the soil will make it necessary. And what must be done ultimately should not be ignored entirely at the present time.

I predict that in the near future many of the subjects now required for entrance to our colleges and universities will be discarded for subjects

that expound Nature, such as plant and animal life and the laws that govern their growth and the transmutations that occur. Being the children of Nature, we should know more about the laws of Nature, for God's text book, which all Nature is, should take precedence over that which is purely human and oftentimes found to be false.

The American habit seems to be to get the most out of Nature with least effort and without making any compensations, if it can possibly be avoided. This is wrong in principle and wrong in practice. Every farm should improve in productive power the longer it is cultivated. Moreover, the wasteful exploitation of coal and oil fields and the remaining forests should be restrained by law to the necessities of the people, and that, too, without needlessly destroying for the present what future generations will sorely need. The crime of utilizing only thirty-five to forty per cent of the forest and the mine to augment already swollen fortunes, wasting the remainder wantonly, should no longer be tolerated.

The government should take cognizance of the future. When the present generation shall have passed away, the government will not only still be in existence, but a much larger generation will be in evidence. This later generation must be fed, clothed and sheltered, perhaps better than this, and from the same natural resources. Billions of money descending in the form of private fortunes, representing thirty-five per cent of value and sixty-five per cent of wasted gas, oil, timber, and coal, will prove a poor substitute for the elements wasted in order to create this money.

In the very nature of things it is unfair for a few to hog what belongs to all the people.

ALFALFA NOT A CURE-ALL FOR EVERY FARM AND IS NOT SUITED FOR ALL SOILS AND DISTRICTS

Many farmers have been led thru the excitement produced by alfalfa trains, and other promotion methods, to plant alfalfa when they never

should have attempted it, according to specialists of the Department. These specialists feel that there has been an unnecessary amount of talk about alfalfa and too little actual attempt to demonstrate the limitations that exist with reference to growing that crop. As a result the Department, while it is helping farmers to cultivate alfalfa and other leguminous plants by preparing bacterial cultures, is also cautioning its demonstration agents to teach the farmer to grow alfalfa where it is desirable to have it taught and where there is promise of success. These demonstration agents are particularly warned not to encourage individual farmers to grow alfalfa unless the climate and other conditions and the soil of the special farm fully warrant the experiment which involves an investment for seed and cultivation, and if the crop is not successful means a waste of the land over a growing season. The question of whether alfalfa will grow is not a simple problem, but involves frequently a complicated group of problems which have to be considered from several different angles and by several different groups of specialists. Mere examination of the soil will not show what is going to happen with alfalfa. The only way to discover whether or not it will grow is to try it inexpensively in an experimental plot, get certain general facts in mind, and then extend the experiment to promising local farms with the help of the farmer himself.

Only recently the department had requests for 50,000 to 60,000 pounds of alfalfa seed for distribution to some fifty or sixty thousand farmers. If the department had acceded to this request, it very easily might have encouraged the farmers in that region to spend additional money for seed when they should not have undertaken the culture of alfalfa at all. The mere furnishing of seed is only the first step, because its successful cultivation calls for special methods, of soil preparation, inoculation, and many other matters not commonly understood by those who have had no experience with this forage and cover crop.

Alfalfa where it can be grown properly is undoubtedly of much value to the farmer. In regions where it is already grown the farmer can gain valuable advice by consulting those who are already growing it successfully. Before becoming a pioneer in alfalfa raising in his district, however, the farmer would do well to consult with his State experiment station and so gain all possible information that will help him to make a success, or else obtain information that will show him fully the danger of attempting to

raise alfalfa and make clear to him exactly the risk of money, time, and

use of land he is taking in attempting the experiment.

Bean Raising Does Pay

As Related by John Etiman, Mapleton, N. D.

There has been but little attempt at bean growing in North Dakota but numerous inquiries indicate that some of the farmers are considering its possibilities.

Because of the manner of harvesting it is practically necessary to grow this crop free from weeds and for this reason a proper preparation of the seed bed is most important.

A timothy sod broken after the hay is cut then disked later when the sod is partly rotted, makes an ideal place for planting beans the following spring as this will be free from weeds.

It is also possible to grow a crop on timothy sod plowed in the spring. In this case the land should be plowed at the ordinary depth and fitted at once for planting by thoro dragging and disking.

Stubble land or other land that is weedy should be cleaned for a season before attempting to grow beans. This may be accomplished by plowing the land shallow in the fall, plowing again in the spring and sowing to barley or millet and plowing after this is cut but before the pigeon grass or weeds ripen.

If the land is spring-plowed do it early so weeds will have time to germinate then they can be destroyed. Harrow the land early to start weeds. About May 15th disc, lapping half. About May 20th go over the field with the spring tooth harrow going crosswise from the way it was disked. Just before planting harrow well.

May 25th has been found a good time for planting. A grain drill can be used, shutting up some of the feeds so as to sow in rows two feet apart. This takes three-fourths to one bushel per acre. Two inches is a good depth to plant. It is well to plant crosswise of the plowing when convenient. It saves having rows in the dead furrow.

In seven to ten days the beans will be coming up. Go over the field with the weeder. One without wheels is preferred. If the ground is loose sometimes use the harrow. When the first two leaves are out go over them again with the weeder going crosswise of rows. This should be done in the afternoon of a sunny day as the plants are less liable to break. If one has but a few acres the one-horse cultivator can be used, one

having ten or fifteen small shovels is preferred. I use a four-rowed sugar beet cultivator. This requires two horses and cultivates three rows at a time. The cultivation should be shallow and continued till the beans are in blossom. Two or three times over the field should keep it clean.

If the pigeon grass is allowed to grow it will not only reduce the yield but necessitate pulling the crop by hand.

There are machines on the market for pulling two rows at a time. The ordinary walking plow can however be used. Set it to merely scrape the surface, striking the row near the point of the share. It will crowd the beans out leaving them free from the ground tho they will be partly in the loose dirt. In pulling I strike out a land going to the right for a while then to the left. When a fair width strip has been pulled take the hay rake in the morning and rake into small windrows. It is a good idea to have a man follow the rake with a fork and throw the windrow over so the wheels of the rake will not run over it. This raking must be done in the morning when there is some dampness or dew as they can then be driven over without many shelling. Run the rake opposite to the way they were pulled. Gather the windrows into small piles. The beans can be threshed after they have lain in the piles a day if the weather is fair. If they must be stacked let them get dry first. Make the stack narrow. Put down a good layer of dry straw for a bottom.

Beans can be threshed with the ordinary threshing machine replacing the concaves with boards and changing some of the pulleys. It will split a good many. The huller is better and small ones are made for farm use. There are fanning mills that will remove the split beans. The beans need to be hand picked. Machines are made that make it possible to do the work quickly.

(Mr. Etiman has grown from twenty to seventy acres a year for the last twenty years. He considers ten bushels a good yield but has secured as high as twenty. He has lost two crops, one in the dry year of 1910.

The names of the manufacturers of bean machinery can be obtained thru

the local implement dealers or by writing to the experiment station. C. B. Waldron, N. D. A. C.)

CONCRETE GARBAGE BURNERS

An Effective and Durable Device for the Destruction of Trash and Debris

The best way to get rid of garbage and all combustible trash is to burn it, and the most satisfactory way to burn it is to construct a concrete stove or trash burner of the type shown in the accompanying illustrations.

Concrete stoves of this character may be placed at any convenient location and if it is found necessary to build them in some conspicuous spot, they may be decorated with some simple design if constructed in the urn-like form shown in Fig. 1.

These concrete stoves may be used with open top and kettle for heating or cooking food for poultry and livestock as well as for burning garbage and other trash. They are most convenient to have about the home or on the farm.

To build a garbage burner of the type shown in Fig. 1, dig out the dirt to the depth of six inches. For

forms choose two barrels, one of which will set within the other with a clearance on all sides of six inches. Adjust the height by cutting off their butts. Make an opening thru which a metal ash-box can be inserted or over

which an iron door can be hung. Fill the foundation hole and the forms with 1 : 2 : 4 concrete. Remove the outside form after two weeks. The furnace is a cone-shaped structure 5 feet in diameter, 4 feet high with 8-inch walls and 24-inch screened openings. The fire-box or ash-box is 12 by 14 inches.

Another type of burner is shown in Fig. 2. This furnace, in a word, consists of an old grate, a second-hand iron door and a length of terracotta drain pipe for a chimney or pipe. It is cheap and will last forever. As in the case of the first burner described, it may be constructed with a flat top and opening therein for a large cooking kettle. With the front door and grate at a higher level it would make an excellent outdoor grill for a permanent camp or country estate.

To the man of mechanical turn working in concrete is play. Given a quantity of Portland cement, he merely adds thereto twice as much sand and four or five times as much crushed stone or gravel. When the mass is thoroly mixed and wet to the consistency of mortar, or to the degree that it can be poured into a mold, he has a plastic material which becomes as hard as iron when it has thoroly set and seasoned. As a humorist expressed it, "the tooth of time goes to the dentist when it tackles concrete," the latter being the name of the above mixture.

To make anything of concrete,

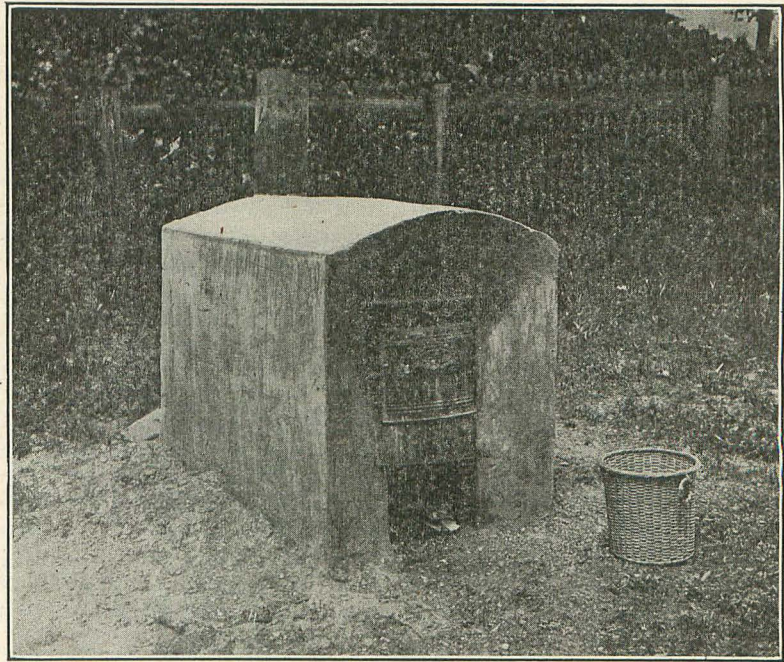


Fig 2

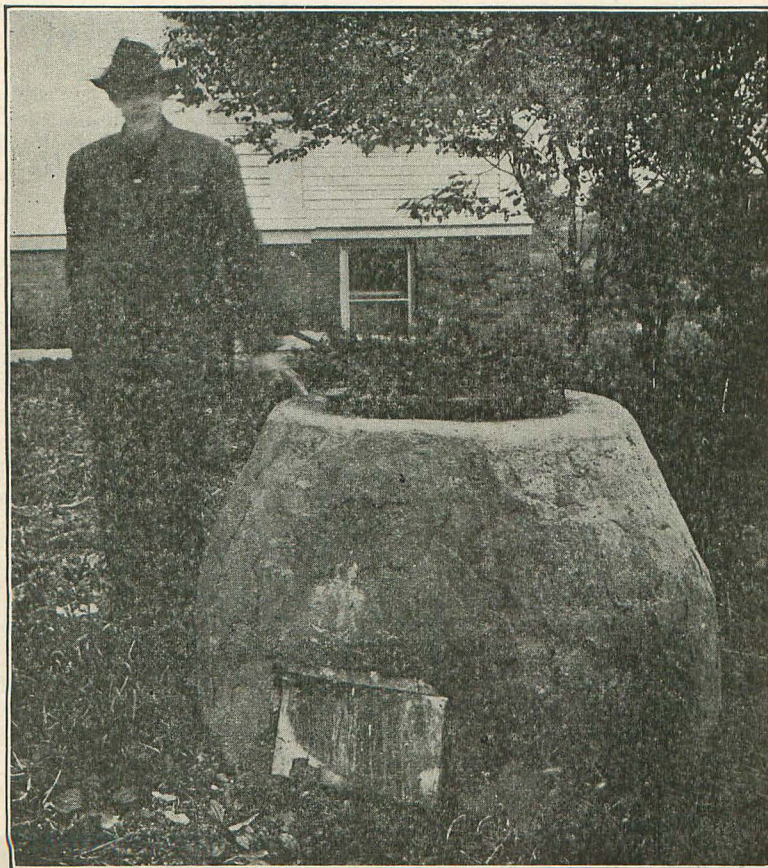


Fig. 1

molds of wood, plaster or iron are used, the wet mixture being poured or tamped into the forms or molds.

As stated, this convenient device, with its water-shedding nature is indestructible. Rain and frost do not affect it, and it will never rust, disintegrate or decay. It is so simple that any person of mechanical bent should be able to build one.

STRAWBERRY CULTURE

C. B. Waldron, Horticulturist,
N. D. A. C.

The efforts at strawberry culture in different parts of the state have been sufficient to demonstrate that this fruit can be grown with reasonable success wherever the conditions are made suitable. The prime requisites are:

First: The right varieties.

Second: The proper kind of soil.

Third: Protection.

Fourth: Correct methods of culture.

In many localities the matter of variety is not of the first importance since there are many varieties that with good conditions are about equally profitable. Our own circumstances are somewhat different. In order to succeed we need a plant that will withstand heat, cold and occasional drouth. This means a plant with a strong healthy foliage, and big vigorous root system in addition to the essential quality of hardness.

The Senator Dunlap strawberry seems to meet these requirements better than any other that we have so far tried. In some localities strawberries succeed well on rather light soil. This is where the rainfall is abundant, or where water can be supplied artificially. In regions having no greater rainfall than North Dakota we select the soil that is the most retentive of moisture. This is ordinarily a good strong clay loam. It must be borne in mind, however, that soils which are too heavy will bake and pack and thus dry out sooner than soils which contain a considerable amount of sand. The strawberry is likely to be injured by hot dry winds, and for this reason we provide if possible a shelter of trees upon the south and west. It takes but three or four years to grow a pretty good wind break of Russian willows, and in the meantime rows of sunflower can be made to assist. The strawberry bed should also have some shelter at the north to prevent snow from blowing during the winter time.

Where the rainfall is very abundant it is possible to grow the plants close together, thus obtaining a large yield.

That method is not a safe one in North Dakota. Varieties like the Senator Dunlap, which make a large number of plants, must be greatly restricted in their growth cutting off all but three or four runners during the first season after planting. It is our custom to set the plants two by four feet apart. This causes ample room for cultivation, and allows each plant sufficient moisture to develop to the fullest extent.

We have found that the plants set early in the spring produce a much larger crop the following season than those which are set late. For this reason we would recommend setting the plants about the middle of May, keeping them well cultivated thruout the season, allowing no more than eight plants to form to the yard of the row. These should be kept pretty well confined to the row, which should not be allowed to attain more than one foot in width.

It is impossible to grow strawberries successfully in North Dakota without winter protection. In most regions this protection is not applied until after the ground is frozen hard. In as much as the first frost in this country is likely to be very severe we consider it a good plan to put on a light mulch about the first of November, before the ground begins to freeze. This may consist of fresh stable manure scattered lightly over the whole bed, using a manure spreader if possible. This should not be applied so heavily as to smother the plants. The object of this is to lessen the possible damage arising from sudden severe cold.

After about two weeks another light covering can be added, and by the first of December the third one, so that the mulching finally is about two inches thick. The last covering can be of old straw. Aside from the protection which this mulching affords during the winter it takes the place of cultivation the following season. In fact, it is so much better than cultivation would be that we would not think of trying to grow strawberries by any other method. The mulching is allowed to remain upon the bed a second season. It is removed to some extent from the plants themselves, tho it should be left an inch thick immediately over the plants. They will readily grow thru this mulch in the spring, and the protection which it affords immediately about the roots prevents injury from hot dry weather.

The strawberry bed will need practically no attention aside from partially removing the mulch from the plants, until after the picking season is over. It may then be put in shape

for second cropping by severely thinning out the plants, burning off the old mulch and thoroly cultivating the ground. At the close of the season the mulch should be applied as before.

It is not profitable to grow more than two crops of berries in the same bed. One should set out a new bed from the young plants which grow in the first year on the old bed. The secret of successful strawberry growing is to prevent their crowding by the plants themselves; to afford protection at the right time; and above all, to keep the soil mellow and moist by cultivation and by mulching.

NO PROFIT BY STUBBLING IN GRAIN

The stubbling in of grain is being practiced more or less in the wheat sections of the Northwest. By stubbling in grain is meant the seeding of grain on fields that have not been plowed since the removal of the previous crop. There are apparent advantages and disadvantages in the practice. The advantages lie in the saving of time and equipment in plowing, in the plumper and better quality of kernels and in the larger area that may be covered. The disadvantages are that the yields, on an average, are about one-third less and occasionally both seed and labor are thrown away. The straw is commonly shorter and in an adverse year is hard to bind into firm bundles that will not scatter. The fields dry out quicker than on plowed ground and are harder to plow the following year while the physical condition of the soil is not as good for the subsequent crop. Weeds, notably Russian thistles and tumbling mustard, are much more numerous on stubbled in fields, as are also insects in some cases. The reflections upon one's credit and standing as a farmer must also be listed among the disadvantages.

In response to inquiry sent out by the Office of Farm Management 144 farmers in widely scattered parts of North Dakota stated that the stubbling in of grain was practiced in their vicinity. The experience and observation of 87½ per cent of these men caused them to declare unfavorably toward the practice. Ten and one-half per cent qualified their statements and specified the particular conditions under which satisfactory results had been obtained. The remaining 2 per cent did not declare either for or against.

The qualified statements concerning the practice are as follows: If the ground has been deeply spring plowed the year before and is rich, loose, free

from weeds and sown early, stubbling in is all right. In a few instances where the stubble was burned off in the spring better results were secured than where the stubble was not burned. A few indorsed press drills for this work.

From the evidence of these farmers it would seem to be generally unwise to follow this practice. If farmers would use foresight in planning their years' work the stubbling in of grain would rarely be necessary. The practice is usually followed because more work has been undertaken than could properly be accomplished in the time available. A better understanding by farmers of the average length of season and the average day's work would tend to greatly reduce the number of cases where stubbling in would be necessary.

THE AMERICAN AUTOMOBILE ASSOCIATION

Richard Kennerdell, the recently appointed chairman of the Contest Board of the American Automobile Association, has always been interested in competition of every kind; originally a cyclist of note, he naturally took to the motor-driven vehicle when it appeared, and being of a mechanical turn of mind, he understands the technicalities of automobile manufacture.

Chairman Kennerdell has invited all the members of the 1913 Contest Board to continue in office, and it is expected that all of them will accept re-nomination. Furthermore, former Chairman Schimpf has consented to serve, and a large number of the state representatives will also remain in office.

One of the plans of the Contest Board is to issue membership buttons both to drivers and mechanics, and to amateurs as well as to professionals. Application for registration can be made to Chairman Kennerdell at the Contest Board offices, 437 Fifth Avenue, New York City.

Convicts on Public Roads

The development of convict road work in practically every state of the union will be the natural outcome of the passage of the Bocher-Hughes Bill, now pending before Congress.

This bill which will limit interstate commerce in convict-made goods by subjecting such goods to the laws of the state into which they come will strike a fatal blow at the contract system. Under this pernicious system great quantities of prison-made goods are annually thrown on the open market, and because of the cheapness

of their manufacture are sold at prices far below those at which similar goods manufactured under fair conditions can be sold. A cutting of the selling-price of goods manufactured in free factories and a consequent lowering of the wage paid free workingmen is the consequence.

Against this unfair competition organized labor has waged unceasing warfare, striving to overcome it by limiting the output of the prisons. Laws requiring the branding of convict-made goods and also a license for their sale have been written on the statute books of New York and a dozen other states. These laws, when tested by the courts, have invariably been held unconstitutional on the ground that they interfered with interstate commerce. The Bocher-Hughes Bill has, therefore, been introduced into Congress and is supported by the American Federation of Labor and the National Committee on Prison Labor. This bill is modeled after the Wilson Liquor Law which restricts interstate commerce in spirituous liquors, and it is hoped in the event of its passage that the state branding and licensing laws will be possible of enforcement.

New York City has long been the dumping ground for convict-made goods, and once it is possible to enforce the New York branding laws, the profits to be derived from prison contracts will be reduced to a minimum. So great is the contractor's fear of the effect of such legislation as the Bocher-Hughes Bill that many contracts contain the proviso that on its passage they shall immediately become null and void.

The destruction of the contract system would necessitate the building up of other systems for the employment of convicts. In the constructive program which would be worked out in each of the states road work, endorsed as it is by the National Committee on Prison Labor and other agencies for prison reform, would play a large part. The passage of the Bocher-Hughes convict labor bill is, therefore, of definite importance to all interested in the movement for placing convicts on the public roads.

ALFALFA IMPORTANT

W. C. Palmer, Agri. Editor, N. D. Agricultural College

One ton of alfalfa hay has the same feeding value as 60 bushels of oats. Alfalfa can be expected to average at least two tons per acre. This is the equivalent of 120 bushels of oats. There is no land that will average 120 bushels of oats—in fact, it takes

good land and good handling to average 60 bushels of oats per acre. The alfalfa requires less work and less expense to handle than a grain crop. And the alfalfa will improve the soil while the oat crop will reduce its productive power. To get this value from alfalfa it must be fed on the farm. It needs to be kept in mind that the alfalfa is a roughage.

The securing of a stand of alfalfa requires that the conditions necessary to the alfalfa be supplied. These are: organic matter in soil, best supplied by manure; good deep compact seed bed, best furnished when land is manured, plowed deep for corn and the corn clean cultivated. Alfalfa needs bacteria. If these are not in the soil introduce them by getting soil from a field growing alfalfa successfully. Alfalfa likes sunshine, so plant it alone. A nurse crop hurts it. Sow it about June 1st. The different strains of alfalfa differ much in hardiness. Select seed adapted to the locality to be grown. Start with a small piece first. There is no crop that will produce so much food per acre and it is also one of the surest if not the surest crop that can be grown after it is well established.

VALUABLE LAND FOR FARMING IN ALASKA

So far as topography, soil, and climate determine the matter, Alaska has probably 100,000 square miles of area on which there are possibilities for farming and grazing. The larger portion of the farming land is in the interior, in the Yukon drainage, according to the Department of Agriculture's new bulletin entitled "Possible Agricultural Development of Alaska."

Currents, raspberries, gooseberries, strawberries, blueberries, and cranberries are plentiful in Alaska. Varieties of wheat, oats, rye, barley, potatoes and many other vegetables have matured every season since the Department started its work at its two most northern experiment stations. The Department has four stations: one is on the Yukon within 75 miles of the Arctic Circle, another is also in the interior, while there is one in the southeastern and another in the southwestern portion of the Territory.

It has been positively demonstrated that forage crops may be grown in the southwestern and central portions as well as potatoes and other garden vegetables. Chicken-raising is also proving feasible. It has also been estimated that a great number of farm products are shipped in that might easily be raised on the ground.

The new bulletin on Alaska, while

citing so many optimistic facts, also warns the homesteader that there are many difficulties to be encountered.

On the south coast, where the climate is mild, tillable land is scarce, because of the proximity of the mountains to the shore line; elsewhere in Alaska the winters are long and very cold and frost-proof buildings must be provided for shelter of family and stock.

The ground freezes to a great depth and there is but a short period during which this can thaw, and the surface is covered with an accumulation of undecayed moss and other vegetable material serving as a protection to the frost and a reservoir for moisture. The frost line under natural conditions sinks but a few feet during a season, and the thawed layer is usually a morass of muck in all portions of Alaska where tillage is possible. This condition makes land travel almost out of the question during the summer, until wagon roads shall have been built, and these must be largely of the corduroy type. Meantime the farm-home must generally be located close to navigable water.

The swampy character of much of the surface of Alaska makes it a great breeding ground for mosquitoes and gnats, which are almost intolerable pests to both man and beast. It also makes drainage a pre-requisite in order to remove the surplus water so that the land can be worked, raise the temperature of the surface soil, lower the frost line, facilitate the decay of the accumulated organic matter, and bring about chemical changes which will transform the soil from a very acid condition to one much less so. Nature requires much time for this last process.

Where the vegetable accumulations are largely moss, this must be de-

stroyed, either by burning or by carting it from the land, for, if plowed under it decays very slowly and seems to have an injurious effect on most crop plants.

The timber growth, which occurs on practically all the land suitable for tillage, must, of course, be cleared from the land.

All this work—building houses and barns, draining, clearing land of moss and timber—is very slowly accomplished in the short outdoor working season if done single-handed by the homesteader, and costly, almost prohibitively so if hired labor is used, because of the high wages and living expenses.

Lack of general transportation which would open up the country, of local wagon roads, schools, churches, and other features of present-day life, and of the markets in which to sell farm products and from which to obtain home supplies and farm equipment are deterrent features at present, but they will disappear in time.

The Federal homestead laws extend to Alaska, excepting that, instead of 160 acres, 320 may be filed upon. Very little of the available land has been surveyed, but that work is now in progress. One may locate on unsurveyed land, file a claim, and establish lines by metes and bounds, but he can not secure a title until a survey has been made by an authorized surveyor and the survey approved. If the survey is made in advance of that made by the Government, it is done at the expense of the homesteaders, and that is heavy.

That Seattle, Wash., is nearer Maine than it is to the extreme western point of Alaska; that the mean annual temperature of Sitka is about the same as that of Washington, D. C.; that Alaska has numerous deep,

land-locked, ice-free harbors; that the coast line is 26,000 miles long, and that there are 6,000 miles of navigable rivers in our northern Territory; these facts, not generally known, are brought out in the Department of Agriculture's new bulletin on Alaska. The extent of this wonderful country with its scant population of 65,000, its mountains, its climate and its soils are fully described in the new Government publication. This can be had free from the Department of Agriculture, by application for Bulletin No. 50.

WORLD'S POTATO GROWERS TO COMPETE AT PANAMA PACIFIC INTERNATIONAL EXPOSITION

The humble but wealth-producing "spud" at last has come into his own. Elevated to kingship, he will be enthroned throughout the ten months of the Panama-Pacific International Exposition in the southwest corner of the Royal Palace of Agriculture; and there he will make eyes—potato eyes—at all the world's cooks who would mash him; while all the nations of the earth—headed by Ireland—pass him in review and pay him their devoirs, or devour, as the case may be.

Announcement to this effect was made recently by Chief Barr of the Bureau of Congress and Conventions, following the receipt of a telegram from E. S. Grubb, vice-president of the National Potato Association who represented the exposition at their first meeting, at Ithaca, N. Y. Not only did the potato men—representing growers, distributors and transportation men—vote unanimously to hold sessions here in 1915, but they made arrangements to bring here an

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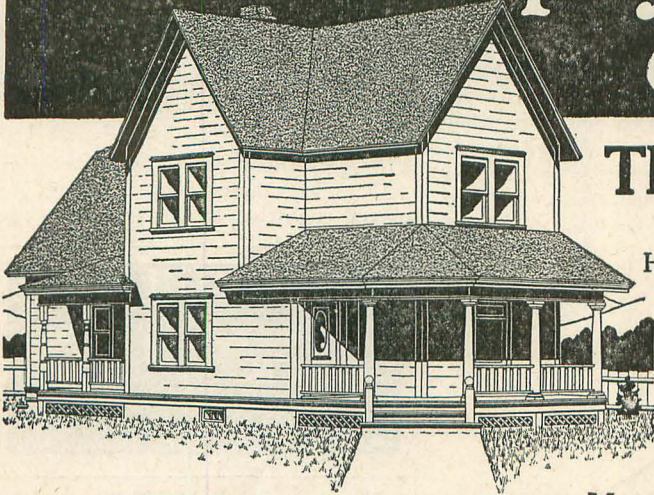
End of North Bridge, N. P. Ave.

International Potato Congress—the first ever held in the world. This is the third of the series of unique world congresses on soil products, which will come into being at the exposition, the others being the World's Petroleum Congress and the World's Alfalfa Congress. This is the 213th Convention scheduled to meet here.

Of still greater importance to California and particularly to the delta region where the tuber is king, is the announcement that the National Association is arranging a National and International Potato Growing Contest for prizes. This will embrace not only growers, but Agricultural Colleges and schools of the world. The

products of potatoes to be grown the coming year will be exhibited with the conditions under which they are grown. The organizations to participate are vast and represent millions, the ramifications extending to the distributors, handlers and transportation companies.

Andrew Espey saved \$700. on this house



This letter tells the story

ISMAY, MONT., JAN. 5, 1914.

Hewitt-Lea-Funk Company, Seattle, Wash.

Gentlemen:—We unloaded the lumber out of the car. So far as the lumber was concerned, you couldn't buy such lumber in this town, and as for the saving, we saved about \$700.

Yours respectfully,

ANDREW ESPEY.

We designed this house for Mr. Espey to carry out his own ideas. The total amount of his order, delivered at Ismay, was \$976.60. Think of saving \$700.00 on an order of \$976.60!

Money-back plans for Mr. Espey's house, \$2.00

With this or any other of our plans we'll furnish *guaranteed estimate*, covering everything to build house complete. We guarantee that bill as figured will provide enough of all materials and that there'll be *no extras—no delays*. As to *quality*, we guarantee our lumber and millwork to grade higher than standard rulings. We also guarantee count, and let you inspect lumber, and make sure it's right before you accept shipment. This plan used by Mr. Espey is but one of many shown in our new Plan Book. Write for it today.

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Every plan practical as well as artistic. You'll find so many good plans, in this book, that you'll have a hard time choosing between them. You need this book in the house, even if you are not ready to build. It cost us \$30,000 to put out this book—it's worth more than books sold at 50c to \$2.00—but you can have it by simply sending the coupon and 10c to cover postage and mailing.

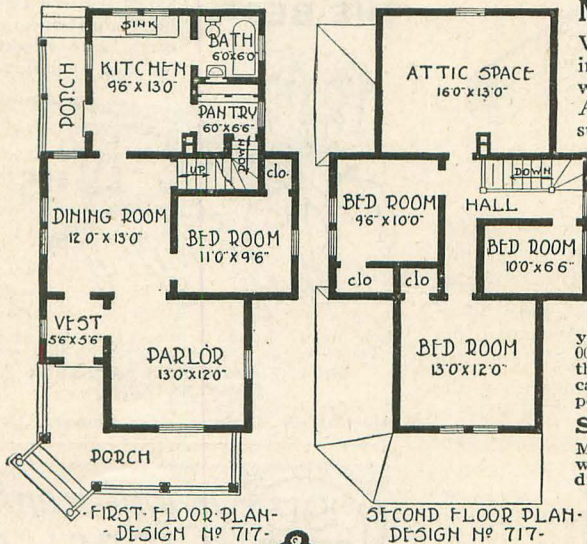
Send us your rough plans

Maybe you have an idea of just how you want your house built, same as Mr. Espey did. Send us a rough sketch showing your

ideas. Our architects will draw up detailed plans for you at a cost that is only a fraction of the usual charges. They'll give you better service than you can hope to get from any local architect.

Send us your bill of materials or let us help you with your plans

Send us your bill of materials for estimate, if you can—if you haven't reached that point, get our Plan Book, our price list and full particulars of the money we can save you. Be sure to cut out the coupon and mail today.



HEWITT-LEA-FUNK COMPANY
440 Union Avenue, Seattle, Wash.

You save up to 60% on a Seattle Silo

We'll let you make up your mind as to the kind of a silo you get from this letter of James Stephenson, of Clements, Kansas, written Nov. 10, 1913.

"I want you to know what I think about the carload of lumber. It was the finest of the kind ever shipped to this town. Not one bad piece in the 580 pieces. We have erected two of the four silos and they went together without any effort. The milling was perfect. I like your silos because the staves have longer tongues and grooves than I have ever seen. This makes a much stronger job and there is less danger of the stave buckling or getting apart when loose. It is so easy to tighten the staves in this silo that it will be a lazy farmer indeed who has any trouble. Your hinge door is the handiest and most complete silo door on the market.

"I believe next season will be a good one for the silo business. The past season has put many a farmer up against a tough proposition. They are being compelled to sell off their stock on account of no feed. They are having the lesson rubbed in good and know that the silo is their only salvation—and that every farm needs a silo."

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Hewitt-Lea-Funk Company, 440 Union Ave., Seattle, Wash.

HEWITT-LEA-FUNK COMPANY

440 Union Avenue, Seattle, Wash.

(Be sure to write plainly and send bill of materials if you can)

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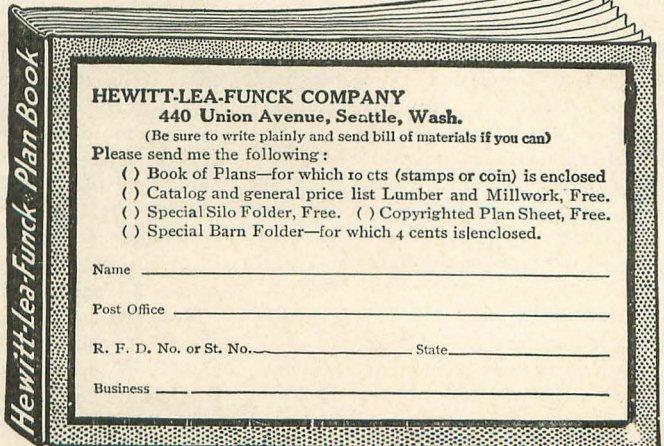
- () Book of Plans—for which 10 cts (stamps or coin) is enclosed
- () Catalog and general price list Lumber and Millwork, Free.
- () Special Silo Folder, Free. () Copyrighted Plan Sheet, Free.
- () Special Barn Folder—for which 4 cents is enclosed.

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Post Office _____

R. F. D. No. or St. No. _____ State _____

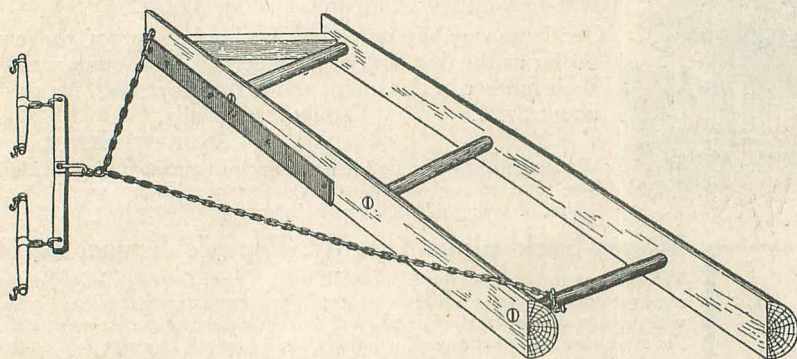
Business _____



THE CONSTRUCTION OF A SPLIT-LOG DRAG EIGHTH YEAR—MAY

By D. Ward King, in U. S. Bulletin

The author has experimented with a great variety of devices for road dragging, but has found the two-slab log or plank drag with liberal "set back" the most satisfactory. Double drags for working both sides of the roadway simultaneously have been tried with only limited success. The reason for this lies in the fact that both sides of an earth road are never exactly alike. This causes the two parts of the drag to work unevenly and to interfere with each other. It is also impossible for one man to operate both parts successfully, as will be shown later on.



The Split Log Drag

Two mistakes are commonly made in constructing a drag. The first lies in making it too heavy. It should be so light that one man can easily lift it. Besides, a light drag responds more readily to various methods of hitching and to the shifting of the position and weight of the operator, both of which are essential considerations. A drag can be made heavier at any time by proper weighting.

The other mistake is in the use of squared timbers, instead of those with sharp edges, whereby the cutting effect of sharp edges is lost and the drag is permitted to glide over instead of to equalize the irregularities in the surface of the road. These mistakes are due partly to badly drawn illustrations and plans of drags which have occasionally appeared in newspapers and partly to the erroneous idea that it is necessary that a large amount of earth shall be moved at one time.

A dry red cedar log is the best material for a drag. Red elm and walnut when thoroly dried are excellent, and box elder, soft maple, or even willow are preferable to oak, hickory, or ash.

The log should be 7 or 8 feet long and from 10 to 12 inches in diameter, and carefully split down the middle. The heaviest and best slab should be selected for the front. At a point on this front slab 4 inches from the end that is to be at the middle of the road locate the center of the hole to receive a cross stake and 22 inches from the other end of the front slab locate the center for another cross stake. The hole for the middle stake will lie on a line connecting and halfway between the other two. The back slab should now be placed in position behind the other. From the end which is to be at the middle of the road measure 20 inches for the center of the cross stake, and 6 inches from the other end locate the center of the outside stake. Find the center of the middle hole as before. When these holes are brought opposite each other, one end

of the back slab will lie 16 inches nearer the center of the roadway than the front one, giving what is known as "set back." The holes should be 2 inches in diameter. Care must be taken to hold the auger plumb in boring these holes in order that the stakes shall fit properly. The hole to receive the forward end of the chain should be bored at the same time.

The two slabs should be held 30 inches apart by the stakes. Straight-grained timber should be selected for the stakes, so that each stake shall fit snugly into the 2-inch hole when the two slabs are in the proper position. The stakes should taper gradually toward the ends. There should be no shoulder at the point where the stakes enter the slab. The stakes should be fastened in place by wedges only.

When the stakes have been placed in position and tightly wedged, a brace 2 inches thick and 4 inches wide should be placed diagonally to them at the ditch end. The brace should be dropped on the front slab, so that its lower edge shall lie within an inch of the ground, while the other end should rest in the angle between

the slab and the end stake.

A strip of iron about $3\frac{1}{2}$ feet long, 3 or 4 inches wide and $\frac{1}{4}$ of an inch thick may be used for the blade. This should be attached to the front slab, so that it will be one-half inch below the lower edge of the slab at the ditch end, while the end of the iron toward the middle of the road should be flush with the edge of the slab. The bolts holding the blade in place should have flat heads and the holes to receive them should be countersunk.

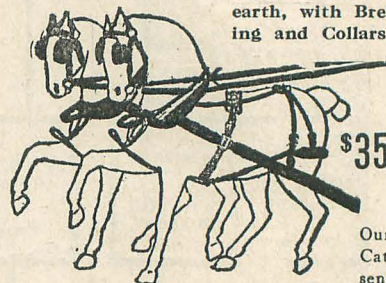
If the face of the log stands plumb it is well to wedge out the lower edge of the blade with a three-cornered strip of wood to give it a set like the bit of a plane.

A platform of inch boards held together by three cleats should be placed on the stakes between the

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slabs. These boards should be spaced at least an inch apart to allow any earth that may heap up and fall over the front slab to sift thru upon the road again. The end cleats should be placed so that they will not rest upon the cross stakes, but drop inside them, while the middle cleat can be shifted to either side of the middle stake. These cleats should extend about an inch beyond the finished width of the platform.

An ordinary trace chain is strong enough to draw the implement, if the clevis is not fastened thru a link. The chain should be wrapped around the rear stake, then passed over the front slab. Raising the chain at this end of the slab allows the earth to drift past the face of the drag. The other end of the chain should be passed thru the hole in the end of the slab and is held by a pin passed thru a link. One and one-half trace chains are sufficient.

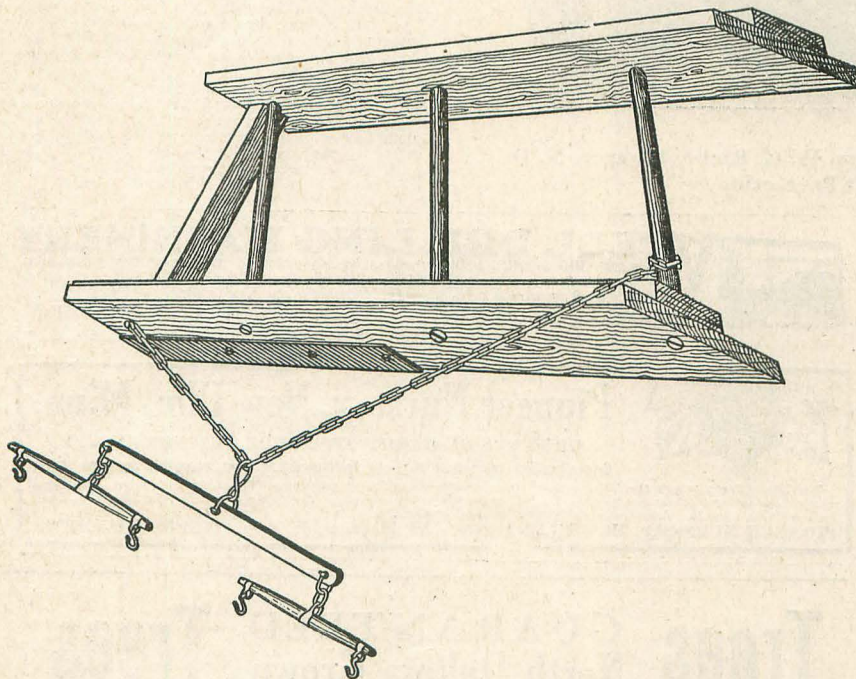
In many logs the grain runs around the tree in such a way that when split the slabs will be in a "wind." If this wind is not more than 4 inches in 8 feet, the timber can be used to good advantage by setting it so that the

ing in the construction of a plank drag that calls for particular mention except the strengthening of the planks along their middle line by a 2 by 6 inch strip. A triangular strip may be used under the lower edge of the blade to give it the proper cutting slope.

How to Use a Drag

The successful operation of a drag involves two principles, which when thoroly understood and intelligently applied, make road working with this implement very simple. The first concerns the length and position of the hitch, while the second deals with the position of the driver on the drag. Each influences the other to a large extent, and successful manipulation of the drag is dependent upon an understanding of both of them.

For ordinary purposes the snatch link or clevis should be fastened far enough toward the blade end of the chain to force the unloaded drag to follow the team at an angle of 45 degrees. This will cause the earth to move along the face of the drag smoothly and will give comparatively light draft to the team, provided the driver rides in the line of draft.



The Plank Drag

blade end of the log shall slant forward when the other end is perpendicular. The construction of the drag in this case is the same as given above, but care must be taken that the holes bored to receive the stakes are plumb. No wedging under the lower edge of the blade is necessary in using such a log.

Drags are often constructed of planks instead of logs. There is nothing

Sometimes, however, conditions are met which require special treatment, and in a rolling country such conditions are not infrequent. Often a flat place several rods in length or a seepy spot needs special attention.

The distance from the drag at which the team is hitched affects the depth of the cutting. Shortening the chain tends to lift the front slab from the ground; a longer hitch causes the

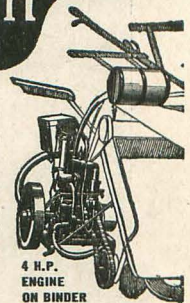
blade to cut more deeply. The length of hitch may be regulated by lengthening and shortening the chain at the end which runs thru the hole in the blade end of the drag.

If small weeds are to be cut or a furrow of earth is to be moved, the doubletree should be attached rather close to the ditch end of the drag. The drag will now move nearly ditch end foremost, and the driver should stand with one foot on the extreme

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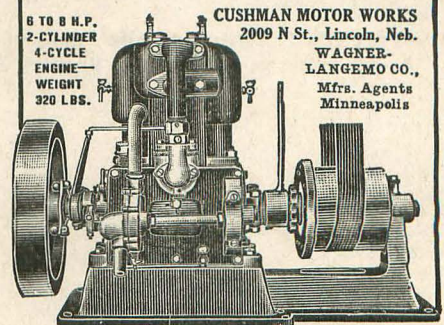


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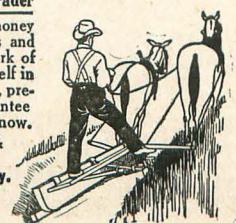
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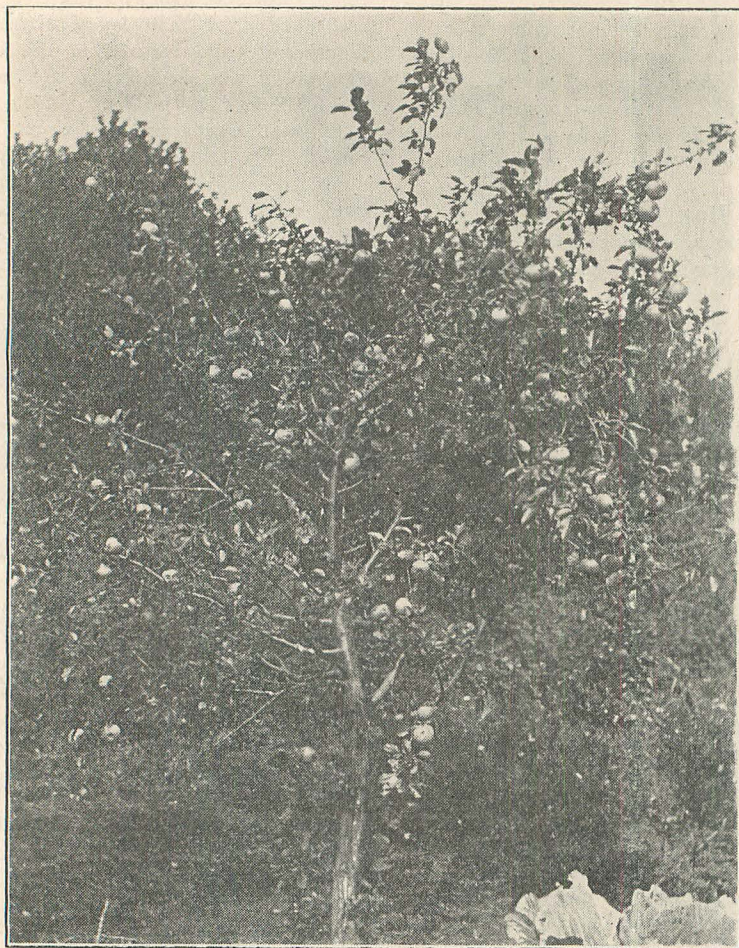
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Patten's Greening on the Farm of Mrs. W. C. Riebe, Pingree, N. D.
Note the Shelter Belt Protection.

forward end of the front slab. This will swing the drag back to the proper angle and will cause the blade to plow. This hitch requires slow and careful driving in order to prevent the drag from tipping forward. If the blade should plow too deeply, as it may do in a wet spot, the driver should shift his weight toward the back slab.

If straw and weeds clog the blade, they can usually be removed if the driver shifts his weight to a point as far as possible from the ditch or blade end. Similarly, if he steps quickly away from the ditch end, the load of earth may be dropped into a low place or mudhole.

Some attention should be given to the edge of the blade. In the beginning, the average earth road requires no steel plate on the drag, tho the drag will be better preserved if the steel is applied at first. At the end of a year's work, if the dragging has been faithfully done, a steel plate will be needed. If the twist of the log is properly used, or the three-cornered strip of wood is placed under the blade, a flat piece of steel will answer. In case the blade stands per-

pendicular it should be slightly cupped when sharpened.

Usually two horses are enough to pull a drag over an ordinary earth road. When four horses are used, they should be hitched to the drag by

BIG SHOE COMPANY'S SEARCH FOR MARTHA WASHINGTON'S DESCENDANTS

Unique Experience in Tracing Offspring of Historic Martha

The F. Mayer Boot & Shoe Company of Milwaukee, manufacturers of the famous Martha Washington Comfort Shoes, recently conceived the idea of sending a souvenir to all of the descendants of Martha Washington as a fitting token of esteem to the "Mother of our country" after whom their wonderful comfort shoe is named.

When they set about to carry out this seemingly simple matter, something interesting happened. Thousands upon thousands of people claimed kinship to the illustrious Martha to such an alarming extent that the project was given up.

This famous lady was blessed with two children, a daughter and a son, by a former marriage, John Park Curtis. The latter married early in life and had several children, among them Nellies, who was married to George Washington's nephew, Lawrence Lewis.

Now Lewis is something of a common name, and the F. Mayer Boot & Shoe Company decided to start by investigating the Lewiss, intending to follow this up with the Dandridge's and the Curtiss, the former being Mrs. Washington's maiden name and the latter her first husband's name.

But they never got further than the Lewis's. From a few agents selected to make the initial test, the reports came in that nearly every Lewis approached claimed direct or collateral descent from the good Martha.

So the plan was abandoned and the big Mayer shoe company will have to content itself with the idea that the whole world is one big family and keep its factory running to the limit supplying the good housewives of the present day with the greatest comfort shoe the world has ever known, the Martha Washington Comfort Shoe.

The F. Mayer Boot & Shoe Company, which has one of the largest shoe manufacturing establishments in the entire west, makes a complete line of shoes for men, women and children, including the well and favorably known "Honor-bilt" Shoes and the specially constructed wet weather shoe sold under the name "Drysox."

—Adv.



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MAKE BIG MONEY drilling wells. Steady demand. Our machines make deep or shallow wells of all kinds in all kinds of soil. Fast workers and easily operated. Most improved in every way. Write for our free catalog.
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Devils Lake, - - - - - North Dakota.

means of a four-horse evenner. The team should be driven with one horse on either side of the right-hand wheel track or rut the full length of the portion to be dragged, and the return made over the other half of the roadway.

The object of such treatment is to move earth toward the center of the roadway and to raise it gradually above the surrounding level. While this is being accomplished, all mud-holes and ruts will be filled, into which traffic will pack the fresh earth.

When to Use a Drag

The drag does the best work when the soil is moist, but not sticky. The earth then moves freely along the faces of the slabs. If the roadway is very badly rutted and full of holes, it may be well to use the drag once when the ground is slushy. This treatment is particularly applicable before a cold spell in winter when it is possible to have a roadway freeze smooth.



"Discard both poor ears and poor kernels. A day may thus be well spent."

A smooth road surface is secured by this method. Clay, when mixed with water and thoroly worked, becomes remarkably tough and impervious to water. If compacted in this condition it becomes extremely hard.

Another valuable result of dragging is the reduction of dust, for the particles of clay cohere so tenaciously

that there is but little wear when the surface is smooth. Dust on an earth road is due to the breaking up under traffic of the frayed and upturned edges of ruts and hoof prints. If the surface is smoothed after each rain and the road dries hard and even, no edges are exposed to crushing and the only dust which forms is that due to actual wear of the road surface.

There are so many influences at work and conditions are so varied in

different localities that it is quite im-
(Continued on Page 16.)

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Vol. 15 APRIL, 1914 No. 10

There is no place like an attractive home.

Canadian farmers are engaging extensively in breeding livestock.

"I was born and raised on the farm" should be changed to "I was born and stayed on the farm."

When the country home is what it should be and what it can be made, the rural problem will be well on its way toward solution.

The disc is one of the most important implements on the farm. Whoever attempts to farm without a disc is like going against the enemy without a gun.

The Department of Agriculture estimates that the ravages of pocket gophers cause an annual loss of \$10,000,000. Next to weeds in North Dakota the pestiferous pocket gopher is an economic nuisance.

Without co-operation the individual farmer has to go up against organized business and hence is doomed to defeat on practically every proposition that he undertakes. Organized, however, farmers will become a power for the benefit of the producing and consuming public.

The ground being badly cracked open by the severe frosts, on account of its lack of a snow covering, will give the spring snow water access to the subsoil, and in this way it is hoped that what evaporated during the winter will be more than made good during the spring.

The county agent is more than a peddler of progressive ideas among farmers. He is also a gatherer of ideas from farmers who are doing things better than their neighbors, and he may thus increase his own store of knowledge. The old-fashioned farmer knows some things that are not in the catalog, but are yet worth knowing.

Any institution that depends for its success upon the defamation of citizens may well be closely scrutinized. Fair dealing should be all that is necessary to recommend a corporation's business to the favorable consideration of the farmers of the state. Where so much bluster is promoted it may well be taken as a means to detract attention from something else that will not stand investigation.

When the country home is lighted by electricity generated by means of the wind-mill, it will be a long step toward home improvement. The storage battery necessary to light the buildings can also be made to furnish power for many purposes, such as separating the milk, operating the washing machine and churn, grinding feed for the stock and pumping water for house use. There are always air currents of sufficient velocity to generate electricity at minimum cost for all necessary purposes on the farm.

Farming is rapidly becoming an engineering proposition. In order to feed and clothe mankind more energy is required in the field of production than the exercise of muscle, of both human and domestic animal. Steam, gasoline, and electricity must all be harnessed to the modern car of progress,—and then some. Human ingenuity will have to be exercised continuously in order to meet the ever-increasing wants of the people. Necessity is the spur that, like a whip of scorpions, will continue to lash men to greater efforts as suffering or desire haunt their footsteps.

President John H. Worst, who for the past twenty years has worked enthusiastically and unselfishly for the best welfare of North Dakota farmers, has announced himself a candidate for United States Senator. Throughout his entire career as champion of the farmers' interests both by his pen, upon the platform, and at the head of our state agricultural college, he has ever been found faithful to those who have trusted his leadership. If ever a man belonged to the people of North Dakota, it is John H. Worst.

The Grange is one of the oldest and most stable of the many farmers' organizations. It has to its credit the initiation of nearly every great movement, such as parcel post, good roads, rural free delivery of mail, etc., that the country people enjoy. There should be five hundred granges organized in this state during the year 1914.

North Dakota soil is exceedingly productive. The health of the commonwealth is exceptionally good. Her schools, from the grades to the college and university, average with the best in any state. Her citizens are progressive, intelligent, and wide-awake. No state in the Union offers better returns from the soil than does North Dakota, and where economy is practiced and diligence employed, the farmer is bound to succeed. There is room, however, for thousands of additional farmers in the state and every reasonable means should be employed to retain those we have and to induce others to come.

The planting of forest trees should not be neglected by the farmers of the state. Every quarter section of land would be greatly enhanced in value if it contained from five to ten acres of forest trees, kept in good growing condition for five years after being planted, while the climatic and moisture conditions of the state would be immeasurably improved by the presence of such little forests. Every farmer, therefore, could well afford to spend the time and money necessary to thus improve his farm and for the future benefit of those who will live here. Tho we do not personally reap all the benefit from the trees, yet Heaven may bless us for what we do unselfishly for posterity.

Electricity is bound to play an important part in converting the farmstead, now so dreary, into a delightful, well-lighted home, with power also for the feedmill, churn, cream separator, wash machine, etc. All that is needed is for a few progressive farmers who care more for home comforts, which the family needs, than for more acres that the family does not need, to set the pace. Gus F. Swanson of Bowbells, Burke Co., and the Manikowske farm near Mooreton, Richland Co., are examples of what may be accomplished on a North Dakota farm by the use of electricity. A common windmill will furnish all the power necessary to provide the farmstead with many modern conveniences, including light and power. Bulletin No. 105 of the North Dakota Agricultural College gives full particulars and can be had for the asking.

Pure Food Advertisers

The products advertised below are in compliance with the pure food law of North Dakota and of the highest grade.
ASK YOUR GROCER FOR THEM.

"BUY"

"EAT"

HOME BRAND

Pure Food Products

"ECONOMY" "SATISFACTION"

Griggs, Cooper & Co.

MANUFACTURING
WHOLESALE
GROCERS,

ST. PAUL, MINN.

Main Offices:
CORNER THIRD AND BROADWAY

DR. PRICE'S
JELLY

DESSERT
NUTRITIOUS-WHOLESOME

One package, 10 cents, makes one pint of wholesome Fruit Jelly. All flavors from true fruits.

The Purest of Pure Food Products

are packed under the Brands of

Nokomis
PURE FOODS

Blue Bird
PURE FOODS

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PURE FOODS

Wampum
PURE FOODS

Stone-Ordean-Wells Company
DULUTH, MINN.

BRANCH HOUSES-Minot, Bismarck, N. D. Billings, Bozeman,
Butte, Great Falls, Mont.

MONARCH BRAND



FOOD PRODUCTS

A GUARANTY OF PURITY. A WELCOME GUEST at every table where the HOUSEWIFE demands the BEST. THE MONARCH LABEL insures QUALITY in Coffee, Catsup, Pickles, Maple Syrup, Canned Goods or any article bearing the MONARCH BRAND of REID MURDOCH & CO CHICAGO.

ANOTHER PURE FOOD PRODUCT

CEREKOTA

Self-Rising

Pancake Flour

Is a Scientific Preparation of Healthful Appetizing Ingredients
and the Best Flour Milled in North Dakota

GUARANTEED Pure and Wholesome

Ask Your Grocer for a Trial Package!

Bemmels Milling Company

Sole Manufacturers

Lisbon,

North Dakota

THE SPLIT-LOG DRAG*(Continued from Page 13.)*

possible to lay down a general rule for the number of treatments needed to keep a road in good condition. A tough clay or a stiff sandy clay will resist the action of wheels and hoofs for a longer period than a loam, other things being equal. Certain sections of a roadway will require more attention than others because of steep grades, seepage, exposure to hillside wash, etc. The best guide in meeting these conditions is the knowledge and experience gained while dragging the roadway.

There is no condition, however, in which special treatment should be given to a road. Clay hills under persistent dragging frequently become too high in the center. To correct this it is best to drag the earth toward the center of the road twice and away from it once.

COMMUNICATION

To Editor N. D. Farmer:

Since the question of retaining the agricultural agents or field men is being discussed in this section I'd humbly submit some of my ideas on the subject.

In the first place the question of taxing the people for the support of the movement should be referred to the voters at the primaries or some other election whether it is required by law or not. Our taxes are very high at present considering our earning capacity and it would not be fair for a 25 per cent to compel the 75 per cent to pay higher taxes without a consent of the majority. Minnesota is settling this question by a vote of the people.

It would also seem that one field man would suffice for the county for the future, since the farmers after a three years course in agriculture ought to be out of the elementary and into the advance grades that would not require rehearsal quite so often, hence more ground could be covered.

The motive behind the Better Farming movement has not been sufficiently explained. When a person comes to my place and expects to be received as a confidential advisor in my business affairs, I am entitled to know what prompted him, and if it is a matter of earning his salary, the motives of those who are paying his salary should be explained, whether the bankers of North Dakota and the lumber trusts, implement combines, jobbers and wholesale houses of Minnesota or whoever they might be are doing it from purely philanthropic inclinations or whether it is a business proposition whereby they

expect to get their money back with profit.

While the merchant and other lines of business employ experts at times to give them advice, they would probably resent the idea if farmers or laborers should club together and hire men to give them advice.

I am strongly of the opinion that the agricultural agent or county field men should be the representatives of the farmers themselves. The farmers can well afford to raise sufficient money to support a local county representative who would do nothing but work for their interests as an advisor, organizer or business representative. An energetic, well-posted man who had been trained for agricultural work and had considerable experience in its real application in any particular location could earn his salary several times in any average North Dakota county if he was employed by and worked for the farmers of the county. He could do very much better work than if he was com-

pelled to remember that all or a portion of his salary was paid by interests other than agricultural.

In a hundred different ways, such as supplying market information, securing supplies of farm seeds, promoting organizations and directing co-operation among the various clubs and the like and acting as local representative of the farmers, this agent could render a service which would be of incalculable benefit to the community.

In stirring up the farmers to some activity along the line of organization and co-operation, the Better Farming Association has done us a good turn and I believe that if the tax payers' consent was asked at some election, there would be less dissatisfaction than if it was carried over the protest many by a fraction of the tax payers signing a petition.

Yours for Farmers' Co-operation.

H. C. OTTESON.

Calvin, N. D., April 8, 1914.

QUERIES AND ANSWERS

CROP QUERIES

Would you recommend corn fodder? Which is the best kind and how much should be sown per acre?

Answered by J. H. Shepperd

Corn fodder produces the cheapest roughage that can be grown in this state in my opinion. It also has the advantage of cleaning land from noxious weeds and of putting it in good mechanical condition as the results of cultivation which the corn receives. Any corn that will reach the ripened stage the first week of September and produce a good yield is suitable for growing in this climate. For the south half of the State Golden Dent and Northwestern Dent are the most satisfactory. In the northern part of the state Mercer or Gehu will give good results as they are both good yielders and early. I would plant corn in check rows, four stalks to the hill.

Editor North Dakota Farmer:

Please let me know what I should sow with oats for fodder. I want something that will keep the land from blowing. Could I use sugar cane? I also am planning to sow a piece to corn.

Answered by J. H. Shepperd,
Dean Agricultural Department
N. D. A. C.

Replying to the inquiry of J. W. Bellcourt, I would say that field peas would be the very best thing to sow with your oat crop. If you will put in about a bushel of oats and the same amount of Canada field peas per acre you will, with an average season, get a nice mixture of oats and peas, which will make a grade of hay that will correspond rather closely to a mixture of timothy and red clover in its quality and composition.

Sugar cane is too late growing to amount to much if sown with oats, and corn would represent the same difficulty. The Canada field peas, on the other hand, ripen almost exactly with the ordinary white Russian oats. The oats tend to keep the peas from lodging and they cure together very nicely.

What is the best way to treat a sprained ankle or wrist?

Immerse in hot and cold water, alternately, and strap with adhesive plaster (in the beginning). If there is much swelling and strapping is uncomfortable or painful, remove and apply lotions such as lead and opium wash or wintergreen liniment and flannel or gauze bandage. Much relief is often obtained by applications of hot flannels (hot fomentations), changing about every five minutes.—Miss Alice G. Haggart, N. D. A. C.

PASS THE NORTH DAKOTA FARMER ON TO YOUR NEIGHBOR.

Livestock Department

FARM AND STOCK NOTES

N. J. Shepherd

Usually the less butter is worked the better.

An animal with a dirty hide cannot be at its best.

It is not only cruel to overtax young horses, but expensive as well.

With poultry it is better for the health to slightly underfeed than to overfeed.

If the manure is scattered as fast as made, there will be but little waste.

The only satisfactory way to know the profits of any system of feeding is by the scale test.

In selecting a brood sow a strong maternal appearance should be the first consideration; after that beauty and style.

In a horse a short strong back and long heavy muscular quarters are elements of strength as well as beauty.

Hogs will never injure themselves by eating too much salt, if a supply is kept where they can help themselves.

The quality of the meat produced is surprisingly affected by the food and management of the hogs during growth.

Improper treatment and handling cause the ruin of more horses than

are naturally worthless by reason of their vicious disposition.

Up to a certain point the larger the ratio of food of gain to food of support the more profitable the feeding.

With all stock good care and proper feeding are so closely allied to each other as to be almost inseparable.

Before condemning a cow as worthless, try what an increase in her rations will do; increase both the amount and quality.

Especially during the growing season it is conducive to health to feed the hogs where they can have the range of the pasture fields.

Men who are governed by prices wholly in their hog-growing seldom find it profitable. The same may be said of men who are constantly changing from one breed to another.

The horse that can walk fast whether he be a saddler, driver, or draft horse, always commands a better price than one equally as good, but a slow walker.

A farmer should raise everything consumed by his family that his soil and climate will produce, when in so doing the cost does not overrun the profits.

Each horse in the team, if sound and of age for good service, should in general be made to perform his share of the team labor according to his weight.

The more gentle and quiet you can keep colts, from the time they are foaled up to the time they are old enough for work, the better both for them and for you.

When the churn is filled too full it is almost impossible to produce butter, not only because there is a want of air, but also because the cream swells in the process of churning.

The only thing against raising horses on the farm is that they cost a little more at the start and are more liable to be injured by accidents, but the farmer who is careful can avoid many of the mishaps to which they are liable.

One of the greatest advantages of growing a variety of crops and continuing to feed different kinds of stock is that with good management it is possible to have something to sell at almost any time throughout the year.

Keeping fowls on hard floors or runs will frequently cause swollen feet and legs. They must have some loose ground to scratch over; it does

CLASSIFIED ADS.

One Cent a Word

Small advertisements will be classified under appropriate headings at the low price of one cent a word for each insertion. Cash must accompany all orders. Each initial or number must count as one word. TRY IT HERE.

LIVE STOCK

POLAND CHINA PIGS, also Shropshire sheep. Seed grain GEO. N. SMITH, Amenla, N. D.

FAMOUS O. S. C. SWINE. Am now booking orders for fine pigs of April farrow. Price: \$18 each; \$35 a pair. All Stock recorded free. Shipping point: Mankato.

ROBT. A. HAEDT, Eagle Lake, Minn.

ASH GROVE FARM. Knudtson & Son, Props. Breeders of Pure Bred Percheron Horses and Short Horn Cattle, Both Sexes. Stock for Sale. Route 1 Fullerton, N. D.

J. S. BIXBY
RED POLL CATTLE. If you want dual-purpose cattle, I have the best. Rhode Island Reds, also in stock. LISBON NORTH DAKOTA

Mulefoot Hogs are Healthy, Hardy and Prolific. Jno. Dunlap, Breeder, Williamsport, Ohio.

Maple Lodge Large Registered Yorkshire Pigs, \$9 to \$12. Sired by Egeland Valliant weight 600 pounds.
Bourbon Red Turkeys.....\$1.75 to \$3.
Partridge Wyandottes, Eggs and Stock....\$1.50
Good Winter Layers All Stock Guaranteed
EDWARD KLEBAUM, - Egeland, N. D.

REGISTERED POLLED SHORTHORN CATTLE AND BOURBON RED TURKEYS.
Some good young Bulls for Sale.
Odessa Stock Farm, - Devils Lake, N. D.

Meadowlawn Farm. The largest breeders in North Dakota. Percheron Horses, Shorthorn Cattle, and Berkshire Hogs. Where quality counts. Address: A. H. WHITE, - Kramer, N. D.

For Large Yorkshires of either sex and bred gilts, address L. A. Knoke, Badger Den Stock Farm, Willow City, N. D.

Choice Poland China Hogs always on hand. Bred Gilts all sold, Register now for spring pigs, either sex; prices right. Thos. Forbes, Petersburg, N. D.

HIGH GRADE LIVESTOCK: Clydesdales, Double-standard Polled Durhams. Farm Horses and Drivers. Leal Stock Farm, - Leal N. D.

PERCHERONS FOR SALE

We are offering a choice lot of young mares and stallions, all raised here on the farm and thoroughly acclimated.

WHITE BROTHERS
Valley City - - - North Dakota

Purebred Registered
HOLSTEIN CATTLE
The Greatest Dairy Breed
Send for FREE Illustrated Book
Holstein-Friesian Assn., Box 135 Brattleboro, Vt.

ENVILLA STOCK FARM

Envilla Stock Farm, Cogswell, N. D. will quote you special prices on Angus Cattle, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat Dogs and other breeds, Angora Cats. All varieties of chickens; turkeys, geese, ducks, guineas, pheasants, rabbits, ferrets. Pets. Live Foxes, Skunks, Mink and Badgers.

MISCELLANEOUS

WANTED. Live Foxes, Skunks, Mink and Badgers, any time.
Envilla Stock Farm, - Cogswell, N. D.

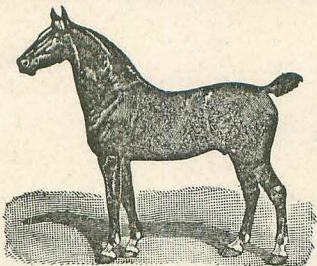
WANTED AGENTS either sex, for Economy Administration Cook Book, the much talked of and biggest seller of the year. \$10.00 to \$15.00 per day right now. Free descriptive circular, or send 25c. for Outfit at once, and first choice of territory. Best Terms. Address, A. B. KUHLMAN, Publisher, 136 W. Lake St., Chicago, Ill.

CENTRAL MINNESOTA

100 Improved Farms; low prices; easy terms; "A good title always." Write for list.
C. D. BAKER, Fergus Falls, Minnesota., BxN

Warranted to Give Satisfaction.

Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

them good in various ways. The dry grain should be well scattered among the loose earth, if they are in a small space so that they must and will scratch to find it.

In selecting sows for breeders it is well to remember that the sow imparts to her offspring the feeding capacity. Do not always select the finer appearing ones, but rather the heavier and coarser boned animals indicative of power to assimilate a large quantity of food.

When pigs are well kept they should gain the faster the older they grow, but it does not necessarily follow that this increased growth makes them more profitable to the grower as it has been shown that often the increased ration and the cost thereof more than offset the value of the gain.

TIMOTHY SEED

This seed won First Prize at Fargo, Jan. 20-24 1914. Price \$3.00 per bushel (45 lbs.).

H. G. Link, - - - Niagara, N. D.

YOUNG MAN, would you accept and wear a fine tailor made suit just for showing it to your friends? Or a Slip-on Raincoat free? Could you use \$5 a day for a little spare time? Perhaps we can offer you a steady job? Write at once and get beautiful samples, styles and this wonderful offer. Banner Tailoring Co., Dept. 231, Chicago.

WANTED—Men and Women to introduce new line Patent Pension, Ball-Bearing, Fit-like-a-Glove Shears. Biggest sellers ever produced. Agents making \$5.00 to \$8.00 per day, full or part time. Best commissions or salary. Free particulars. Address quick, **IDEAL SHEAR & CUTLERY CO.**, Marine Building, Chicago.

FOR SALE: 300 Bushels Pedigree Seed Barley, free from foul seed; 99.9% pure, 100% germination. Winner of Blue Ribbon last year. Write for prices. **Joe Stahl, Pekin, N. Dak.**

FOR SALE. Finest Half Section in State. Level loam; 1000 acres; Lake bottom hayland free; 30 acres fine timber. Fine buildings, water, school and neighborhood. Near four towns and two railroads. \$35 an acre, cash; \$37.50, part cash. Poor health, reason for selling. Address. **OWNER**

Box 17, R. 1 - Devils Lake, N. N.

SEED CORN Seed Oats. For best results plant northern grown seeds. Improved Northwestern Dent, \$3.00. Every ear tipped and carefully examined. Selected and graded to give satisfaction. Test, 90%; Prof. Bolley says it tests 96.

Better plant good seed as a fair price than poor, uncertain seed at a gift.

Graded Ideal Oats, weight 41 pounds. Heavy yielder and very early. Price 50 cents.

Seamless grain bags, 25 cents.

S. M. EDWARDS, Argusville, North Dakota

Wanted: Men who desire to earn over \$125 per month write us today for position as salesman. Every opportunity for advancement. **Central Petroleum Co., Cleveland, Ohio.**

FOR RENT. Improved farm, good buildings, fine water, five miles from town and creamery. Will give right kind of man the place on his own terms. Write to us. **McCarty & Langlois, Belfield, Stark Co., N. Dak.**

WANTED: Improved Farms and Wild lands. Best system for quick results. Full particulars and magazine free. Don't pay big commissions. **W. H. ELLIS** Coeur d'Alene, Idaho.

GIVE GERMAN DISTEMPER REMEDY a Trial. Your money back if not satisfied. **German Distemper Remedy Co., Gothen, Ind.**

HOW HOG CHOLERA SPREADS

Dr. L. Van Es, N. D. A. C.

Attempts at prevention may be divided in those of a general and those of a specific nature. In connection with the former we take in account that hog cholera is a germ disease and that for its propagation it is necessary for the germ to find its way into a healthy animal. The germ always come from a hog sick or infected with the disease, and hence, we must begin with carefully isolating, infected animals and premises on which sick animals were kept. For the same reason, animals dead with the disease should be promptly disposed of by burning or deep burial. Thorough disinfection of

premises, hog-houses, buckets and troughs after the litter has been burned up is to be highly recommended.

IF YOU WANT

ANGUS CATTLE
OXFORD DOWN RAMS
EMBDEN GEESE
WHITE
HOLLAND TURKEYS
BLACK RABBITS

GET OUR EXPRESS-PAID PRICES

WILLOBANK FARM, LARIMORE N. D.

W. F. JACOBS Livestock Auctioneer

Thoroughly Posted on Pedigress

Terms Reasonable LISBON, N. D. Write for dates

ST. PAUL UNION STOCKYARDS COMPANY, SOUTH ST. PAUL, MINN. Comparison of Receipts and Shipments of Livestock for March, 1914

	Receipts					
	Railroads	Cattle	Calves	Hogs	Sheep	Horses
C. R. I. & P.	733	310	1395	290	40	59
C. G. W.	1518	597	4697	125	38	146
C. M. & St. P.	3655	1254	17642	1647	121	506
M. & St. L.	3146	767	11009	166	22	289
C., St. P., M. & O	4084	1105	15679	640	212	422
C. B. & Q.	202	45	1287	62		27
M. St. P. & S. S. M.	5732	2448	18810	979	24	515
Gt. Nor.	10711	3689	35512	21751	134	1092
Nor. Pac.	4700	1271	16438	24303	110	507
St. P. B. & T.						
Driven In.	849	122	1046	381	66	
Total.	37330	11608	123515	50344	767	3563
Inc. over 1913	4220		23067	8398	188	570
Decrease.		28				
Jan. 1 to date	91130	25586	385616	152487	1395	9816
Inc. over 1913	10822		80290	43803	20	1675
Decrease.		1172				
Average Wts.	751	223	226	88		

N. B. — Hogs from Jan. 1st to date on Feb. report should read 262,101 instead of 222,101.

	Shipments					
	C. R. I. & P.	C. G. W.	C. M. & St. P.	M. & St. L.	C., S. P., M. & O.	C. B. & Q.
C. R. I. & P.	1193	2				42
C. G. W.	1868	266	131	220	21	71
C. M. & St. P.	7212	727	15544	16210	30	470
M. & St. L.	791	67				31
C., S. P., M. & O.	5245	1367	2251	3037	85	224
C. B. & Q.	1520	118	11349	4710	45	187
M. St. P. & S. S. M.	928	27	153	7236	111	75
Gt. Nor.	1898	398		422	69	84
Nor. Pac.	1588	337	234		92	73
St. P. B. & T.	30					1
Driven Out.	436	227	249	6	235	
Total.	22709	3536	29911	31841	688	1258
Inc. over 1913	658		5108		153	119
Decrease.		103		781		
Jan. 1 to date	53490	4867	108710	101775	1328	3345
Inc. over 1913	489		34723	27841	53	559
Decrease.		1220				

Next we must attempt to interfere with the transmission of the disease from infected to well herds. Here it becomes necessary to know how the disease travels from place to place. It is doubtful that the germs are transmitted thru the air and in all probability the extension takes place principally thru the agency of intermediary carriers. Persons can carry the infection from place to place on their shoes and clothing. In times when the disease is prevalent hog buyers and such sympathetic neighbors as take an interest in the welfare of other people's hogs, should be barred from the hog lot. Animals such as dogs, chickens, pigeons and sparrows also serve as vehicles for the infection.

In order to avoid those sources of danger of infection as much as possible when the diseases is rampant in a community, we deem it advisable to keep the hogs indoors whenever this is possible, at the same time keeping the quarters thoroly disinfected. We realize that it is better to keep the animals in lots and pastures under ordinary circumstances, but during extensive outbreaks, the confinement of hogs in buildings may be a means of protection.

While the feed in itself plays little or no part in the production of the disease, there always is danger of introducing infection by the use of foodstuffs which may have been contaminated with the germs in some way or other. This may be obviated by the use of a feed cooker by which the materials fed can be exposed to sterilizing heat. Those feeding such material as hotel or restaurant offal should by all means cook it before offering it to hogs.

Another factor in the spread of hog cholera is the introduction of new hogs into the herd. Such animals may have come from an infected district or have been exposed during transit by means of infected stock cars or yards. For the same reason, stock shows are liable to become means for the spread of infection.

Another factor to no small degree responsible for the spread of disease is found in the fact that on many farms hogs manifestly sick with the disease and doomed to die are permitted to

linger about and to hide themselves in various out of the way places. It is reasonable to suppose that this will soon, as it were, saturate a hog lot or pasture with disease and the more infection or germs are thus scattered about, the more danger it will offer to the healthy hogs in a certain district. If farmers could be induced to kill this type of animals and to deestroy the carcasses by immediate burning, they undoubtedly would do a great deal toward limiting both the extent and the speed of the spread of the disease.

KINKS IN KITCHEN CHURNING

G. L. Martin, Dairyman, N. D.
Experiment Station

Butter making on the farm is commonly done in the kitchen in the win-

ter, and at irregular intervals. The cream is usually collected in small lots from day to day and held until a sufficient quantity is on hand to churn. This method is quite frequently attended with many difficult churnings that vex the inexperienced butter maker.

Under such circumstances, one of the first kinks met with in churning is the condition of the cream. It may be too thick, which makes it very sticky; or too thin, in which condition the fact globules are so far apart that they gather with considerable difficulty. If the cream is separated so it will contain from 25 to 30 per cent butterfat, it should be in good condition to churn readily.

Kink No. 2. Cream does not sour so readily in the winter time owing to the low temperature so it is often too

ST. PAUL UNION STOCKYARDS COMPANY, SOUTH ST. PAUL, MINN.

Comparison of the Origin and Disposition of Livestock for March, 1914

Origin of Livestock Received						
States	Cattle	Calves	Hogs	Sheep	Horses	Total Cars
Minnesota.....	27584	9884	79925	13404	255	2387
Wisconsin.....	2501	1150	8079	468	.....	225
Iowa.....	96	8	153	.....	106	12
Far South.....	.....	.....	.....	.....	78	6
So. Dakota....	1166	107	8728	193	109	173
No. Dakota...	4322	441	25956	1228	106	513
Montana.....	90	.....	180	35051	52	165
Far West.....	.....	.....	.....	.....	61	2
Manitoba&NWT	1229	15	494	.....	.....	70
Far East.....	.....	.....	.....	.....	.....	.....
Returned.....	342	3	.....	.....	.....	10
Totals.....	37330	11608	123515	50344	767	3563
Disposition of Livestock						
So.St.PaulPkrs	13248	6674	92990	16904	.....	.....
City&St. Butch	423	42	2249	.....	.....	35
Outside Packers	363	340	26127	197	.....	274
Minnesota.....	4716	735	747	977	367	196
Wisconsin.....	3796	374	153	718	197	150
Iowa.....	3041	17	.....	.....	20	102
Nebraska.....	197	82	.....	.....	.....	8
Kans. & Mo..	.....	.....	.....	.....	27	1
So. Dakota....	3608	798	.....	.....	.....	111
No. Dakota...	1568	243	.....	221	.....	52
Mont. & West	1063	463	.....	.....	10	41
Far South.....	25	.....	.....	.....	.....	1
Manitoba&NWT	34	.....	.....	.....	.....	2
Mich. & E. Can.	41	2	335	.....	2	6
Chicago.....	1922	132	300	29728	36	204
Ills.(exChicago	1474	60	.....	.....	10	59
Eastern Points	29	19	2
Returned.....	409	248	14
Totals.....	22709	3536	29911	31841	688	1258

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(Formerly Threshermen's Review)

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(Your State Farm Paper)

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send \$1.00 for a 3 Year Subscription to both these papers to
NORTH DAKOTA FARMER - - LISBON, NORTH DAKOTA

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3 Years
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\$1.00

sweet when put into the churn. Sweet cream, extremely viscous or sticky, does not release the fat readily during the process of churning. The remedy in this case is to set the cream in a warm place where it may be kept at a uniform temperature of 70 degrees F., or room temperature, until it becomes rather sour to the taste before it is put into the churn.

Another common kink is low churning temperature. In the summer time when the churn, the cream, and the surroundings are warm, the cream will churn with little difficulty at about 54 degrees, but in the winter when these conditions are all reversed it may require a temperature of 62 degrees or more to get results. The particles of butter fat have to be in a plastic condition in order to collect in the churn. If the temperature is too low then the fat globules may strike one another several times before sticking to each other, thus prolonging the churning. A dairy thermometer is an actual necessity in every home where cream is handled. Guessing at temperatures is certainly out of date where butter is worth 30 cents per pound.

A fourth kink is found in the butter fat itself. Butter fat is composed of several fats varying in degree of hardness, also in relative amounts. In the summer time when the cow has plenty of green succulent grass the soft fats are present in comparatively large amounts. In the winter time when the cow is on dry hay and grain feed just the reverse is true—the hard fats being relatively high. To overcome this kink in churning the cream feed the cow on corn silage or root crops to supply the necessary succulence in her feed to keep the proper balance between the hard and the soft fats in her milk.

Kink No. 5. Occasionally difficult churnings may be traced to some cow that is well along in her lactation period and about ready to be dried off. Advance in lactation period frequently results in reducing the amount of soft fats and increasing the hard fats. It may also be attended by a material reduction in the size of the fat globules. On account of the small size and firmness they do not readily adhere to one another during agitation. A good remedy is to raise the churning temperature of the cream. This softens the fat globules, besides it renders the cream less viscous so the fat globules are more readily released.

The last kink is in the way the churn is filled. Under no conditions should the churn be filled more than half full and with small churns one-third full is sufficient. The butter fat globules are brought together dur-

ing the agitation and unless there is room left in the churn the concussion or force with which the globules strike one another will not be sufficient to cause the particles to cling

together.

The best way to avoid kinks in churning is to locate the causes as quickly as possible, then apply the proper remedy.



Poultry Department



"CHEAPNESS" IN POULTRY MATTERS

Michael K. Boyer

Too many begin the poultry business on a "cheap" scale. Anything purchased simply because it is "cheap" is a mistake. Men of the "make-shift" calibre are, as a rule, the unsuccessful ones.

It is always wise to buy the best, and, rightly measured, the best is the cheapest in the long run. The writer has found that in nearly every case the man who persists in advertising that "poultry don't pay" began with cheap, poorly constructed houses, purchased common, dunghill stock because they could be had at table-fowl prices, and fed them on grains not calculated to make them productive, as the price for the proper articles of food "cost too much money."

Beginning with the houses: it is important that they be built of good, strong material, well-roofed, and roomy. The cheap houses are not only constructed with poor, second-hand lumber, but, in order to cut down the cost are made narrow, contracted quarters, allowing insufficient room and very poor ventilation.

Then comes the question of stock: it must be cheap. If pure blooded stock costs two dollars per head, and common dunghills only one dollar per head, it is reasoned that "a man is a fool to pay two dollars for a hen when the same money will buy two hens—and hens are hens, you know!"

Occasionally we will find some excellent layers among common hens, but they are exceptions rather than the rule. On the other hand, pure-breds are the result of careful mating for a particular object. In other words, one wishing to establish a strain of extra good laying stock, will each year carefully make his selections with that object in view. Each gener-

ation will then, naturally, follow in the line. This, however, cannot be the case with mongrel birds, owing to the promiscuous mixing of bloods.

Therefore, the thoroughbred or pure-bred fowl is cheaper at two dollars per head than is the mongrel at one dollar, for the reason that we have guaranteed qualities.

Another point of "cheapness" is in the feed. What a common expression it is to say: "that will do for chicken feed," meaning some musty or damaged grain. There could be no more serious mistake. To make eggs not only calls for food suitable for that purpose, but it must be in a pure state, rich in the requirements. The dairyman would not expect a good flow of milk from his cows if he fed a cheap, inferior ration. It is the same with eggs. Good material is required for good results.

How often we find beginners starting out with dunghills, giving the excuse that they first want to test the business before investing considerable money, which capital they want to stretch as far as it will go. They intend in the future to dispose of these mongrels and keep nothing but pure fowls, but they hardly ever get beyond the mongrel state. Once mongrels, always mongrels. Better invest the

PETERSON'S Barred Rocks

SWEEPS FARGO CLEAN

Of all First and Special prizes. Once again my Barred Rocks prove their superiority at the North Dakota State Show at Fargo, Jan. 1914, by winning as follows:

1st, 2nd, 3rd Cock; 1st, 3rd, 4th Hen.

1st, 2nd, 3rd, 4th Cockerel.

1st, 2nd, 3rd, 4th Pullet; 1st Pen.

Cash special for best display and Silver medal for Best Barred Rock in the Show.

Circular free; it tells all about my fine matings. Write today

ENOCH J. PETERSON

Alexandria, - Minnesota
Formerly: Peterson Bros., Harwood, N. Dak.

1900-C. C. DIBLEY & SON-1913

QUALITY—UTILITY—EXHIBITION

Single Comb Rhode Island Reds, Barred Plymouth Rocks, White Plymouth Rocks, Light Brahmas, Buff Wyandottes.

BIRDS OF HIGHEST QUALITY: Winners in the following shows 1913: Minneapolis and St. Paul, Minn., Fargo & Valley City, N. D. Mating list free. WOLVERTON, ROUTE 1, MINN.

available cash in fifty guaranteed fowls than purchase with it double the number of worthless stuff.

Begin on a small scale—limited according to cash and knowledge—but let that start be strictly on the basis of quality. The safest start is made with good, substantial buildings, guaranteed purebred stock, and the purest and best of feed. Then gradually grow on the same basis, and the industry will be established on a firm and safe foundation.

Avoid mistaken cheapness. The best is the cheapest in the end.

POULTRY NOTES

If a postmortem examination of a heavy hen that died suddenly will show considerable fat deposited between the muscular fibres, it is proof that overfat was the cause of death. Often many of these fibres themselves are replaced by fat, which makes them weak in action and easily ruptured, and those around the egg passage become weak and flabby. If thru fright extra strain is brought upon these muscles, the passage is readily torn, and the contents pass into the abdominal cavity, followed by peritonitis and death.

Egg-eating is a vice acquired by fowls when a tempting broken egg lies before them. To prevent the trouble, it is necessary to keep a watch of the condition of the hens. When hens are too fat—also when there is an insufficient amount of lime in their food, they are apt to lay soft-shelled eggs. It is seldom that hens in a proper condition lay eggs other than strongly shelled ones. Hens are often tempted to eat eggs by having shells still wet with the albumen thrown to them. The best way to feed egg shells to fowls is to first heat the shells in the stove oven for about an hour, and then crumble and mix with the soft food.

After caponizing fowls, they should be fed bone and muscle food to keep them growing. As size is first wanted, they must not be overfatted. Several weeks before killing time, give such food as will put on flesh, like boiled potatoes and a mash with cornmeal and meat scraps in it. Two or three times a week add powdered charcoal to the soft food. Feed whole corn at night. When fattening, give as much of a variety of fattening food as possible, and do not forget a liberal supply of green food.

There is not much profit in fussing with sick fowls. If the early symp-

toms of disease are promptly treated there will need be on fear of contagion. The flocks should be continually watched so that their condition may be daily noted. Trying to cure roup, or some other contagious disease, is a good way to endanger the lives of all the fowls. It is not always possible to keep the stock entirely free from sickness, but by early work one is enabled to ward off two-thirds of the ailments that it seems poultry are heir to.

There is no room in the poultry world for duds nor dandies. One day a gentleman, dressed in the latest style, doffing a high hat and wearing kid gloves, dropped in to talk poultry with the writer. The first impression was that our visitor was a man of means, or a business man with a country estate, and wanted to add a poultry plant to it. But, instead, he explained that he had a few hundred dollars in cash, and he wanted to invest it in the poultry business. He made it plain that he believed the work to be next to nothing, and that he had carefully figured out how it was possible to realize an income of several thousand dollars a year. But we put a damper on his ardor. We explained that high hats and kid gloves were not the proper paraphernalia for poultrymen—that a man afraid of work would never be successful—that really hard work was connected with the business—that there were a whole lot of stumbling blocks—and so on we enumerated, until, in despair, he gave up the idea. Oh, these air castles; these false dreams! No wonder the failures.

The liver of a healthy fowl is of a uniform chocolate-red color, firm, and the right lobe larger than the left. Anything else indicates some disease. Whenever a fowl is killed for table use, its liver should be carefully inspected. If grayish or yellowish masses or tubercles are formed in the liver, it is unfit for food, as the deposits are a strong proof that the bird is suffering from tuberculosis.

An English writer uses the following happy style in advising the poultryman to cull out all undesirable stock: Why keep an old rooster for the sake of its crow? It will make better soup if boiled now whilst it has some flesh on it—breat. When the old ones are cleared off, hunt up the undesirables. A peevish chicken will never make a fine hen—just shift it on. A twist-breasted fowl, or even a mere crooked-breasted bird, should be destined for an early appearance on the market board, rather than be assigned a perch

BRED TO LAY

And prize-winning strain. Barred Plymouth Rocks, White Orpington Indian Runner Ducks; Silver Spangled Hamburgs; Single Comb White and Brown Leghorns. Stock and Eggs at Reduced prices.

F. C. MITCHELL CROOKSTON, MINN.

WHITE WYANDOTTES. Every farmer should raise white chickens, because white chickens improve the looks of a farmyard more than any other color. Do you get that—then why not get a white chicken that combines more good points than any other. Eggs for sale. E. M. White, Valley City, N. D., R. R. No. 1.

HATCHING EGGS

Rose Comb Reds, Single Comb White Leghorns and White Wyandottes. \$1.00 per 13, or \$1.50 per 15 prepaid. Day-old chicks. Orders booked. Also have Indian Runner ducks and Mammoth Bronze turkeys.

Jos. O. Berg
Hendrum, - - Minn.



Rose Comb Red Cockerels

Rose Comb Red Cockerels for \$1.50; and Fawn and White Indian Runners, \$2.50 per pair, if taken now.

Mrs. Ira Heidlebaugh, Pleasant Lake, N. D.

White and Columbian Wyandottes, Light Brahmas, and S. C. White Leghorns
Over 30 years a breeder. Stock and eggs for sale. Michael K. Boyer, Box 27, Hamonton, New Jersey.

S. C. Buff Orpingtons, S. C. Black Orpingtons, M. Pekin Ducks and Indian Runner Ducks.
Maude I. Matthews - Larimore, N. D.

White Rock and Columbia Wyandottes and Buff Orpingtons. Stock and Hatching Eggs in Season. O. A. Barton, Valley City, N. D.

HATCHING EGGS of the Leading Strains and of the Prize Winning kind. Mammoth Bronze Turkeys, 12 Eggs \$1.50 Barred Plymouth Rock 15 Eggs, \$1.50; 50, \$3.00; 100, \$5.00. SEED CORN FOR SALE. Write all orders to C. H. SCHUTT R. R. 1 Fairmount, N. D.

ELEVEN YEARS A BREEDER

Pure-bred poultry: White Wyandottes, Toulouse Geese, Bourbon Red Turkeys and Pearl Guineaes. Stock for sale. Write me your wants.
E. A. TOW, R. R. 3 LISBON, N. D.

EGGS FROM BUFF ORPINGTONS AND S. C. RHODE ISLAND REDS at special low prices Bred to lay. F. M. PEZALLA, Cayuga, N. D.

BRED TO LAY AND WIN

If you want Quality write

Enoch J. Peterson, Alexandria, Minn.
Formerly Peterson Bros., Harwood, N. D.

HAUSMANN POULTRY FARM
Breeder of W. Wyandottes and S. C. W. Leghorns
Hillsboro, - North Dakota

WHITE WYANDOTTES. If you want eggs from an early maturing, heavy laying, prize winning strain of White Wyandottes write me. I am developing a special laying strain by use of the trap nest. Prices reasonable. Write
M. C. JAMES, Valley City, N. D.

Silver Campines and Buff Wyandottes. Great layers of large white eggs. Eggs and young stock for sale in season. E. K. Myhre, Valley City, N. D.

EXTRA LARGE PURE-BRED M. B. TURKEYS

Hens, \$4.00; Gobblers, \$5.00; Rouen Ducks, \$1.50 each. S. C. Brown Leghorn Cockerels \$1.50 each; 4 for \$5.00. Also Poland-China Hogs (The Big Easy Keeping Kind). I will use you right. Write.
Mrs. Emma Timmerman, St. Peter, Minn.

Pure Bred Single Comb, White Leghorn Cockerels, \$1.25 each. Pullers, \$1.00.
Oscar Anderson, R. 2., Edmore, North Dakota

FOR SALE: R. C. Red Eggs; also Indian Runner Eggs, at \$1.00 per 15. Mrs. Ira Heidlebaugh, Pleasant Lake, N. D.

FOR SALE. M. B. Turkey Toms, raised from our Diploma Stock, \$5.00 and up; also Eggs from 26 varieties poultry. Catalog free.
L. GULDEN, Osakis, Minn.

in the hen roost. Look over all the birds selected for stock purposes, and here slight misfits should not be tolerated. When this has been done there will be left a supply of vigorous, healthy birds that will make the fowl pens a credit to the people that own them. If the breeds are properly selected, there will be layers as well as birds that will make a fair price for the table.

The question is frequently asked: "What is the difference between line and pedigree breeding?" Briefly, line breeding is breeding from one certain line for the accomplishment of a certain defined purpose. For instance, if fowls are mated for large bone, all fine-boned fowls are discarded from the breeding pen. In this way great size is attained. The same plan is used in developing strong laying qualities, or size and color in eggs—or points in the fancy. Pedigree breeding is that of breeding recorded stock, each fowl having a pedigree—the same plan as is used by breeders of livestock generally. Neither line or pedigree breeding necessarily means inbreeding. The word "strain" applied to a breed of fowls means a race that has been carefully bred by one breeder, or his successor, for a number of years, and which has acquired an individual character of its own.

The Light Brahma is one of the oldest breeds in the American Standard, and, unlike many others, is still a leading favorite. It is doubtful if poultry ingenuity could "invent" a variety that will stand the test of time as has the Light Brahma. It is in a class of its own—a large, grand roasting fowl, and yet at eight to ten weeks of age makes an excellent broiler. It goes still farther. As a winter layer it is not only unsurpassed, but it produces a handsome brown egg of generous size. With all those good traits it also attracts by its beauty, and it tempts by its good-natured ways. The Brahma is handsome—the white body ornamented by black, and white hackle, black tail, black wings, strong bay colored eyes, and low, ornamental comb set on a massive head, causes admiration by all who see it. Its quiet, gentle ways, too, soon win it to the heart of the poultry lover. Noble Brahma. The American Light Brahma, however, is a different fowl in make-up than is its English cousin. The latter is not highly recommended for utility, and is more especially bred for show purposes. When the first importations came to this country it did not take the practical Isaac K. Felch long to know its virtues, and probably to him more

than to any other American fancier, belongs the credit of having made the Ligh Brahma the bird that it is today.

Either scalding or the dry-picking method can be used for fowls intended for market, but for broilers only the dry-picking method is allowable. A chick only a few weeks old is a very tender bird, but if scalded it will be found impossible to pick it without occasionally rubbing a little of the skin off. These spots will darken and give the broiler a stale look. The scalding will also increase the tendency to decay. With dry picking not only will the bird keep much longer, but the natural firmness of the flesh prevents all fear of skinning.

What part of the egg makes the chick—the white or the yellow? Neither; and yet to a certain extent both do. In other words, the real life is nourished by both. As an individual, the chick is neither yolk nor albumen. The germ which makes the chicken—the life and individual—is imparted by the male, and seen in the little cell located on the side of the yolk. The egg is what nourishes and develops the germ into the visible chick that hatches. Without this germ the egg is of no account whatever, only a reservoir of nourishment that causes the growth of the germ. But one may take the ground that the egg is the chick, the male only quickening the same into life. The yolk is the last to be absorbed by the germ.

SUGGESTIONS ON POULTRY FOR MAY

Mrs. G. W. Randlett

Feeding the Chicks

Do not give any food to the chicks until they are from 24 to 36 hours old. Warmth is more important than food.

Feed them a little every two hours for about a week. After that time feed every four hours until they are a month old, then three times a day. Chicks do not eat much at a time but they eat often. Feed them at regular times and do not omit a meal.

Keep a box of fine charcoal, small grit and dry bran before them all the time and on the floor of the coops sprinkle fine sand in the cut clover and alfalfa leaves. Plenty of fresh water at all times. Give them water in something that only the beak of the chicken can become wet. Do not let the chicks walk in the water. Keep the coop and yards dry, for damp places prove fatal.

A prepared chick feed, if properly balanced, contains bone, muscle and

feather making properties, and can be fed for the first two or three weeks with splendid results. Just give them what they will clean up nicely.

Stale bread that has been dried in the oven and then rolled fine and moistened with milk or water enough to make the mixture crumbly is good.

Hard-boiled eggs are good if you let them cook long enough. Sprinkle a little fine sand on the eggs before feeding.

Never feed raw corn meal stirred into water or milk. It causes bowel trouble and perhaps a loss of half and sometimes all your flock. Corn bread dried and rolled fine, then moistened

Hatching Eggs For Sale

BARRED ROCKS

Bark's Bred-to-lay Strain.

WHITE ORPINGTON, S. C.

Kellerstrass Strain.

WHITE LEGHORNS S. C.

Ferris Strain.

Setting of 15, \$1.50; two settings, \$2.50
Special rates on incubator lots.

MRS. Wm. RYAN,

Pekin, - - - - N. D.

PANAMA POST CARD OFFER

North Dakota Farmer.....3 Years
Thresherman's Review and Power
Farming.....3 Years
25 Panama Post Cards
ALL FOR \$1.18

North Dakota Farmer.....3 Years
Cutting Pliers, 6-inch, nickel plated
25 Panama Post Cards
ALL FOR \$1.18

North Dakota Farmer.....2 Years
Farm and Fireside.....1 Year
Woman's World.....1 Year
Poultry Success.....1 Year
The Household.....1 Year
25 Panama Post Cards
ALL FOR \$1.18

North Dakota Farmer.....3 Years
Crocodile Wrench
25 Panama Post Cards
ALL FOR \$1.18

NORTH DAKOTA FARMER,
Lisbon, - - - North Dakota

with milk or water until it is crumbly is a good change. Never feed sloppy feed. Have it dry and crumbly.

After the third week any wholesome food can be fed with good results.

Be sure to keep all feed and drinking dishes clean. Wash and scald the dishes, keep coops and yards dry, warm and clean, and you will have no trouble raising the entire flock.

A chick should weigh a pound at 5 weeks and be ready for market at 8 weeks.

It pays to hurry the growth of chicks so don't let them shift for

themselves as soon as you think they are well started.

When you see the chicks busy and scratching it is a sign they are happy and thriving.

Spray the coops often and the hen houses once a week and continue to do so thru the warm weather. Dissolve one-fourth ounce of corrosive sublimate in a pint of hot water, then add one ounce of carbolic acid. Stir this into two gallons of kerosene. Keep it well stirred all of the time. Spray coops, roosts and houses with this several times during the summer

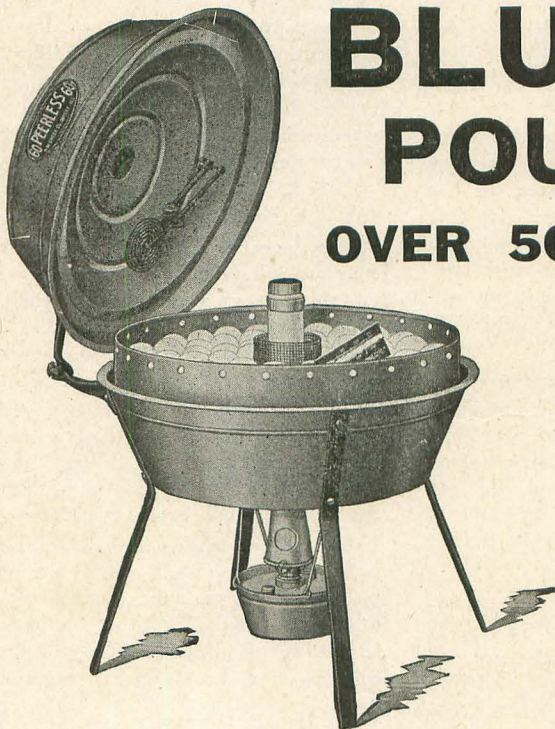
and use it generously.

You can't neglect the chicks while they are growing and get good breeding stock by feeding them good a month or so before laying. Give them plenty of feed, good care and clean houses and yards at all times.

Do not put chickens hatched at different times together. The older ones will crowd out the younger.

Give the chicks plenty of shade to run in on warm days.

Chicks hatched this month will lay in November if you care for them right.

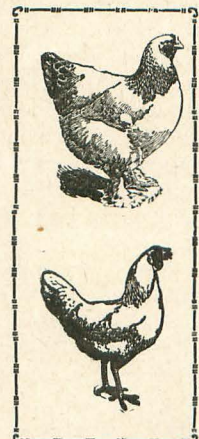


BLUE RIBBON POULTRY FARM

OVER 500 PRIZES IN ONE YEAR

Breeder of 70 varieties of high class Land and Water Fowls

This is our price list of Eggs to the North Dakota Farmer readers. You can order direct from this advertisement, thereby saving time and trouble and do it with perfect confidence.



PRIZES

Our poultry has won its share of prizes at all the leading shows and fairs, such as Fargo, Grand Forks, Valley City, Mandan, Crookston, Duluth, and Minneapolis.

NO STOCK

At present we are all sold out on stock, but will have the same in the fall. If in need of stock we advise you to place your order early, as we have our stock marked so low that this will go quick, for then we do not need to feed them thru the winter.

Below is a list of varieties in which we now have surplus eggs at prices stated.

Eggs per 15	Price	Eggs	Price
Black Cochins.....	\$2.00	Silver Duckwing Bantams, per 15	2.00
White Cochins.....	2.00	Toulouse Geese, Eggs per 8....	2.50
Partridge Cochins.....	2.00	White Embden Geese Eggs per 8	2.50
Buff Cochins.....	2.00	White China Geese, per 8.....	2.50
Barred Plymouth Rocks.....	1.50	Brown China Geese, per 8.....	2.50
Houdans.....	2.00	White Muscovy Ducks, per 11..	1.25
S. C. R. I. Reds.....	1.50	Colored Muscovy Ducks, per 11..	1.25
Mottled Anconas.....	1.50	Aylesbury White Ducks, per 11..	1.50
Blue Andalusian.....	1.50	Pekin Ducks, per 11.....	1.25
White Face Black Spanish.....	1.50	Rouen Ducks, per 11.....	1.25
Silver Spangled Hamburgs.....	1.50	Buff Orpington Ducks, per 11...	2.00
S. C. W. Leghorns.....	1.50	Indian Runner Ducks, per 11...	1.25
Golden Seabright Bantams.....	2.00	Gray Call Ducks, per 11.....	1.00
Silver Seabright Bantams.....	2.00	White Call Ducks, per 11.....	1.25
Buff Cochins.....	2.00	White Crested Ducks, per 11...	1.50
White Cochins.....	2.00	Black Cayuga Ducks, per 11...	2.00
Black Cochins.....	2.00	Blue Wedish Ducks, per 11.....	2.00
Partridge Cochins.....	2.00	Black East India Ducks, per 11..	1.50
White Japanese Bantams.....	2.00	Bronze Turkey's Eggs, per 9....	2.50
Black Japanese Bantams.....	2.00	White Holland Turkey's Eggs, 9..	2.50
Black Tail Japanese Bantams...	2.00	Pearl Guinea's Eggs, per 15....	1.50
Golden Duckwing Bantams....	2.00	White Guinea's Eggs, per 15....	1.50

KEEP THIS LIST FOR REFERENCE

Blue Ribbon Poultry Farm, C. H. Aherns, Prop.
BOX 427, FARGO, NORTH DAKOTA

NEW CATALOG

Send 5 cents for our new 1914 catalog, which gives full details regarding our 70 varieties, prices on stock and eggs of all varieties, many testimonials from customers, etc. Satisfaction guaranteed.

ABOUT EGGS

Also place your orders for eggs early, as last spring in May and April we were so overwhelmed with orders, we had to decline them. Our advice is Order Early.

INCUBATORS

We have one of the best Incubators on the market. It has been tried by ourselves and has been found to be Successful.

School and Home

ELEMENTARY AGRICULTURE

Miss Ura Leader,
Ruraldale, N. D.
Dear Miss Leader:

In the seventh grade work for May you have a subject that lends itself readily to both the esthetic and the practical. An interest in, and love for, bird life is natural and wholesome. A study of birds trains the powers of observation, kindles interest, broadens the sympathies, creates a love for Nature in general, and adds materially to the whole stock of information.

A little study of the habits of birds will also give one some idea of their economic value. But few eat grain or anything else that is of value to the farmer; a great many destroy insects, grubs, and other animal forms detrimental to farming interests, as well as weed seeds. Gophers destroy many thousands of dollars' worth of crop every year. Hawks and owls catch a great many of these rodents, and thus prevent them from doing still greater harm.

As I have suggested to you before, Miss Leader, follow the outline closely; as far as possible, have your pupils do what is suggested. If you do not succeed in getting all the work done as outlined, at least have the members of the class note all the different kinds of birds they can. If a boy or girl is trying this he must take careful note of size, color markings, beak, movement, etc., in order that the same kind be not counted twice. I am strongly of the opinion that a good spirit of emulation can be developed in a contest for the greatest number of different birds.

After a fairly good number, with a little description of each, has been worked up, the next step would be to watch the birds in order to learn what they eat. This should form the interesting part of the whole game, for it begins to tell how handsome Master Robin, or sprightly Lady Wren or queer old Mr. Owl, are actually affecting Father's pocketbook.

EIGHTH GRADE

I do not recall, Miss Leader, whether you told me you came from Minnesota, or Ohio, or whether you have spent all your life in North Dakota. Be that as it may, you of

course recognize the need of more trees in this state. More trees would mean more rain, better crops, more birds, fewer insects, better boys.

If the alert teachers, the leaders in the various communities, can create a sentiment for trees, a sentiment that will actually bear the fruit of tree growing, then those teachers shall have rendered a valuable and lasting service.

I wish every teacher in the state would undertake to plant and care for at least one healthy tree on her school ground every year. If this were done, even for a period of five years, every school ground now barren and forlorn, would present an appearance of attractiveness and delight.

You represent the most progressive of your profession. You, I am sure, will not be content with one tree, but will plant and care for six or a dozen. I am quite sure that you can get young trees from the School of Forestry at Bottineau, entirely free of charge.

Do not dig a small hole in the native sod, thrust the roots in, cover with the sod, and expect the tree to live. Such would be an unfitting burial even for a dead carcass. Treat the live roots of what is to be a live, growing, beautiful friendly thing in a more considerate manner. Have the ground well worked up, and in good tilth. Dig a big hole, have plenty of fine moist dirt to go around the roots of the tree. If the ground is dry, pour one or two pailfuls of water into the hole before planting; pack the moist earth well around the roots. Cultivate well, not only the trees you have planted, but those planted by your predecessors, as well. Create an interest in your pupils for trees and shrubs, and you will have no difficulty with the tree being broken or otherwise damaged.

Birds and trees go together, and are of inestimable value. The latter are decidedly lacking in this state. The teachers can help supply the need.

I shall write my final letter for the year, next month.

Yours very truly,

GORDON W. RANDLETT.

THE CARE OF MILK

Florence R. Thompson, Dept. of
Agriculture, Grafton High School

Milk absorbs impurities more easily than most food products. Since milk is an almost ideal medium for the growth of bacteria, any germs which gain entrance into it may increase very rapidly in number. These may be of contagious diseases and cause sickness and death. The contamination depends largely on (1) unclean utensils, (2) exposing it unnecessarily to the air, (3) failing to keep it cool up to the time of using it, and (4) exposing to flies.

The science of bacteriology is raising the standard of absolute cleanliness. The bacteria which get into milk multiply rapidly if the temperature is 50 degrees F. or above. The best way to receive milk is in glass bottles and have it put immediately in a cold place until it is used. Do not expose the milk in pantry, kitchen, or nursery.

Keep the refrigerator clean and sweet. The place where the food is kept should be scalded every week, absolute cleanliness is imperative. Do not use the milk bottles for any purpose except milk. As soon as empty, rinse in luke warm water and set bottom side up to drain. Never return a bottle in a filthy condition as the dealer cannot clean it properly and the milk that is next delivered will be contaminated.

Milk may be made safe by the proper application of heat. There are two methods of doing this; pasteurization and sterilization. Sterilization means the killing of all germ life. This requires heating at a high temperature for a considerable length of time. Pasteurization means the killing of all actively growing germ life. This may be done at a lower temperature than sterilization. Milk may be pasteurized by heating to 155 degrees F., allowing it to remain at this temperature for a few minutes and then cooling quickly. Pasteurized at this temperature milk does not have the "cooked flavor" caused by higher temperatures. The food value of milk is not diminished by pasteurization but is somewhat reduced by sterilization.

The universal prevalence of germ life makes it impossible under general dairy practice to produce milk wholly free from bacteria, or milk that will not in time spoil or become rancid. Contamination can be prevented, and the period of its remaining sweet can be greatly lengthened.

In the conduct of their work farmers and dairymen should bear in mind that quality and cleanliness are important. Uncontaminated milk is wholesome and economical food and may be used in quantity without harm.

A GIRL'S BED ROOM

Almost all girls like dainty, light colors in their bed rooms. If girls are not neat and orderly and dainty, they all like to think that they are and one way to cultivate in them these inestimable qualities is to take for granted the fact that they possess them.

If you put a pretty muslin spread on a girl's bed, she is not so apt to come in from school and throw her heavy, perhaps damp, winter coat down on it. Unconsciously she walks to the closet and puts it where it belongs.

Most girls' rooms are decorated in either pink or blue and the color matters little as long as the rugs and paper and hangings are chosen carefully. A beautiful room can be made by using both pink and blue.

Have the walls a pale shade of sky or grey blue. They can be tinted with albasco or papered in some cheap solid paper. Rag rugs are best for almost any much-used bed room because they clean and wash so well. If the floors are hard wood, so much the better. If not, they can be covered with a dark shade of floor denim or painted a neutral color of grey or tan. The floor denim can be used without rugs and is found very satisfactory. It wears an extraordinary length of time and when dirty can be scrubbed like board floor.

A bureau is an unnecessary expense, unless of course, you happen to have one that is suitable. A box about three feet square and two feet deep can be made to take the place of a bureau and adds more to the beauty of a room than most pieces of real furniture.

First turn the box on its side and have the family carpenter put in two shelves. If convenient then paint the inside white. Over the top, down the sides and across the front opening in the center, tack a pale shade of pink cambric. Over the top tack dotted muslin plain and make a full ruffle of the muslin the width that the box is high with a little beading above where it is gathered at the top. This, too, must be open down the center and tacked around the box.

Over this home-made bureau put any mirror you happen to have, making a frame about five inches wide of strips of dotted muslin and lace. Do not cut the muslin out under the lace. If you will have this band stiffly starched and fluted, the effect is very pleasing. With a bureau such as described, it is well not to use creton hangings. The bureau gives the light dainty note that it is well to carry all thru the room. Use dotted muslin

window curtains, dotted muslin table cover and bed spread over pink.

The chairs only have to be covered with creton. And there is a lovely stuff now on the market. It has small isolated pink roses on a plain white back ground and is very cheap.

Plain kitchen chairs can be used if you will paint them white and cover the seats and backs with dainty creton.

A girl should have at least one comfortable chair in her bed room. It is so much easier for her to read and study and sew contentedly if she is comfortable.

A girl's love of her home is often dependent upon the character of her bed room. If she has in it the things she wants the way she wants them that room will be a delight to her during her girlhood and a beautiful memory to carry thru life.

A GOOD WORD FOR THE CROW

This Abused Bird has Some Good Qualities to Offset its Bad Traits

SEVENTH YEAR—NINTH MONTH

The case of the crow, condemned a decade or more ago as a destructive bird in agricultural fields, has been reopened by the Department of Agriculture and a more favorable verdict reached. The investigation made by experts of the Biological Survey of the Department shows the crow to be of great value to farmers.

After a careful study of the habits and the examination of a large number of stomachs, the Department experts have reached the conclusion that the crow consumes enough grasshoppers, cut worms, white grubs and other injurious insects to make him highly valuable to farmers. There is, however, one bad habit which the crow has, and that is the destruction of young birds and bird eggs, but this trait is outweighed by the good the bird is doing for the farmer in the destruction of worms and insects.

The one danger from the crow, according to Department experts, lies in large numbers. If the number can be kept down so that its normal food is sufficient, there is every reason why farmers should encourage the bird to remain about their farms. Not long ago an agent of the Department was watching a crow feeding in a corn field. It seemed that the bird was pulling up young corn and carrying it to a nearby nest to feed its young. After the crow had left the nest the agent climbed the tree and secured the young birds. An examination showed that instead of young corn or

the kernel of the corn, the older bird had been feeding the young ones with cut worms gathered from around the corn plants.

Crows are notoriously clannish birds and except during a few weeks at nesting time are usually seen in flocks. Moreover, even while nesting they are more or less gregarious for, altho two nests are seldom built in the same tree, yet half a dozen pairs often build within easy hearing distance of each other, and if one is disturbed all are likely to unite for common protection or protest. When the young are able to fly the parents accompany them, forming little family parties of six or eight, and these soon associate with similar parties. They commonly travel in flocks and often congregate in large numbers, but only during winter do they unite to roost in immense communities. Many roosts are known where not less than 100,000 crows spend the night during this season of the year, and most of these roosting places have been used year after year.

THE LITTLE COUNTRY THEATRE

An institution known as "The Little Country Theatre" has just recently been founded at the North Dakota Agricultural College, located at Fargo, North Dakota. While it is true that large cities both at home and abroad, have Little Theatres, it is doubtful whether another Little Country Theatre, having as great a mission to fulfill, exists in this or any other country. Students of the drama are familiar with the Little Theatre in London, Reinhardt's Kammerspiele in Berlin, the Theatre des Arts in Paris, the Chicago Little Theatre, the Little Theatre in New York City, and Philadelphia's Little Theatre; all of these theatres are in the cities, privately owned, performing a great, but much different function.

The Little Country Theatre is complete in every detail. It is a large playhouse put under a reducing glass. Situated on the second floor of the administration building, it presents a most interesting appearance. It is just the size of an average country town hall, having a seating capacity of two hundred. The stage is thirty feet in width, twenty feet in depth, having a proscenium opening of ten feet in height, and fifteen feet in width. Boxes and balconies are absent. In the auditorium proper the decorations are plain and simple. The color scheme is green and gold, the gold predominating. Three beams finished in golden oak cross the mansard ceiling, the beams projecting

down several feet on each side wall, from which frosted light bowls and globes are suspended by brass log chains, the indirect lighting giving a soft and subdued tone to the whole theatre. The eight large windows are hung with tasty green draperies. The curtain is a tree shade green velour. The birch stained seats are broad and not crowded together. The scenery is painted in plain colors. It has the Belasco realism about it. The doors are wooden doors, the windows have real glass in them. Simplicity marks everything both on and off the stage. It is a model theatre for the open country or small village.

One of the unique features in connection with the Little Country Theatre is the Coffee Tower. It is just to the right of the lower end of the stage. It, too, is plain and simple. Coffee and cakes will be served occasionally to patrons of the theatre.

The object of the Little Country Theatre is to produce such plays as can be easily staged in a country school, the basement of a country church, in the sitting room of a farm home, in the village hall, or any place where country people assemble for social betterment. The character of the productions will be varied. Emphasis will be laid on the one act play and scenes taken from dramas depicting the life of various foreign people. One act plays are not only easier staged, but they also afford country people a better opportunity to write original productions. Many problems in their social life can be more effectively expressed in a thirty or forty minute play than by a two or two and a half hour treatment. Other forms of entertainment can also be introduced along with the one act play.

Nationality programs in which foreign students at the institution and representatives from various foreign communities in the state participate, will be featured monthly. In this and many other ways the Little Country Theatre will serve as a sociological experiment station. It will test the different samples of comedy, drama and other forms of entertainment by giving all eligible students, who come from every section of the state and the northwest, an opportunity of not only appearing in one play a year, but also training in the direction, or the getting up, of the play. If the play or entertainment proves satisfactory, people residing in the rural districts will be given knowledge of the fact. By this method the Little Country Theatre will become a vital force in socializing the country in North Dakota.

A FARMER'S BOY WROTE THE NATIONAL ANTHEM

Francis Scott Key, who wrote the National Anthem, was born and brought up on a farm. The estate was called "Terra Rubra" and was located in Frederick County, Maryland. Since then the counties have been divided and it is in Carroll County. It was a tract of 1865 acres and was patented in 1752 to Philip Key, the grandsire of the poet. The house was built of bricks brought from England. On the estate were many slaves, but when Key became of age he gave all of them their freedom. This, of course, was long before the question of slavery became an acute political issue. Key was one of the founders of the African Society which proposed to return the negroes to Liberia. In 1860 he established at his

home the first Sunday School for slaves.

These are among the interesting facts that are coming out in connection with the Centennial of the Star-Spangled Banner. Not only did the farmers' boys win the battles of the country, but they wrote much of its poetry and music. Baltimore is going to make the hundredth anniversary of the writing of the Star-Spangled Banner a great event. President Wilson, former Presidents Taft and Roosevelt, and most of the big men of the country have accepted invitations to be present. A week will be crowded with wonderful parades, pageants, regattas, contests and social functions. The date will be from September 6 to September 13. The Star-Spangled Banner is now the National Anthem both in the Army and the Navy by Executive order, and a bill before Congress makes it the National Air for the whole country.

Birds of North Dakota

SEVENTH YEAR—MAY

SOME COMMON BIRDS IN THEIR RELATION TO AGRICULTURE

By F. E. L. Beal, Abridged from
U. S. Bulletin 54

While it has long been known that birds play an important part in re-

what it eats. In the case, therefore, of species which are unusually abundant or which depend in part for subsistence upon the crops of the farmer, the character of their food often becomes a very practical question. If crows or blackbirds are seen in numbers about cornfields, or if woodpeck-



The Good the Owl does Far Outweighs the Harm

lation to agriculture, there seems to be a tendency to dwell on the harm they do rather than on the good. Whether a bird is injurious or beneficial depends almost entirely upon

ers are noticed at work in an orchard, it is perhaps not surprising that they are accused of doing harm. Careful investigation, however, often shows that they are actually destroying

noxious insects; and also that even those which do harm at one season may compensate for it by eating insect pests at another. Insects are eaten at all times by the majority of land birds. During the breeding season most kinds subsist largely on this food, and rear their young exclusively upon it. When insects are unusually plentiful, they are eaten by many birds which ordinarily do not touch them.

About 14 per cent of the quail's food for the year consists of animal matter (insects and their allies). Prominent among these are the Colorado potato beetle, the striped squash beetle, the cotton boll weevil, the chinch bug, grasshoppers, cutworms, and other pests of agriculture. As the quail subsists on vegetable matter during the late fall, winter, and early spring, it is evident that during the height of the insect season it must feed almost entirely upon these creatures in order that they should constitute 14 per cent of its food.

Mourning Dove

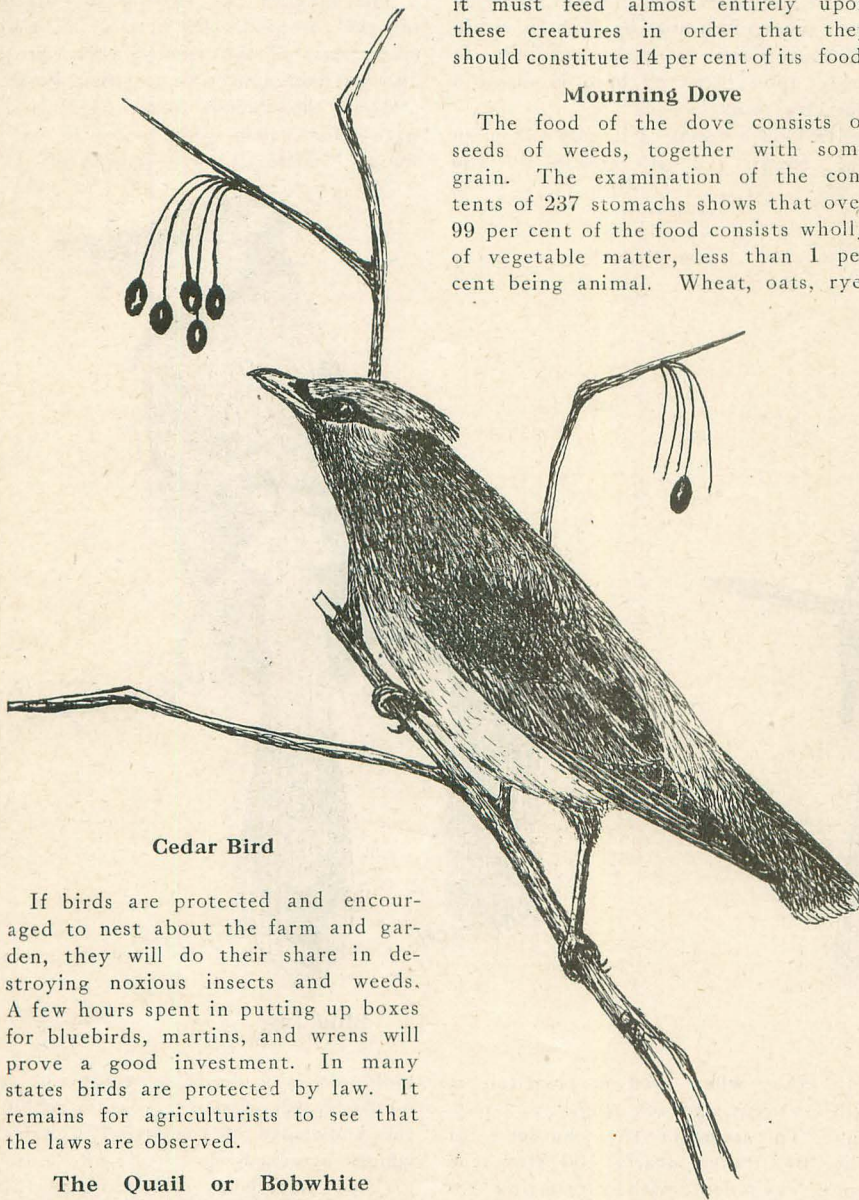
The food of the dove consists of seeds of weeds, together with some grain. The examination of the contents of 237 stomachs shows that over 99 per cent of the food consists wholly of vegetable matter, less than 1 per cent being animal. Wheat, oats, rye,

after the harvest or from roads or stock yards in summer.

This record of weed destruction can hardly be excelled. The dove does not eat insect or other animal food so far as is known. The few traces of insects found in the stomachs are believed to be the remains of weevils contained in seeds which the birds had eaten.

The Cuckoos

Two species of cuckoos, the yellow-



Cedar Bird

If birds are protected and encouraged to nest about the farm and garden, they will do their share in destroying noxious insects and weeds. A few hours spent in putting up boxes for bluebirds, martins, and wrens will prove a good investment. In many states birds are protected by law. It remains for agriculturists to see that the laws are observed.

The Quail or Bobwhite

The quail of the North, or part-ridge of the South, and bobwhite of everywhere, is a well-known bird throughout most of the United States east of the Rocky Mountains. Ever since the first settlement of the country this bird has been held in great estimation as an object of sport, and its flesh has been highly valued for food. It has remained for a later generation to determine that however useful it may be for these two purposes, it is of far greater value when alive and roaming freely about the farm.

corn, barley, and buckwheat were found in 150 of the stomachs, and constituted 32 per cent of the total food. However, three-fourths of this amount was waste grain picked up in the fields after the harvesting was over. Of the various grains eaten, wheat is the favorite, and is almost the only one taken when in good condition. Most of it was eaten in the months of July and August. Corn, the second in amount, was all old, damaged grain, taken from the fields



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billed and the black-billed, are common in the United States east of the Plains, and a subspecies of the yellow-billed extends westward to the Pacific. While the two species are quite distinct, they do not differ greatly in food habits, and their economic status is practically the same.

An examination of 155 stomachs has shown that these cuckoos are much given to eating caterpillars, and, unlike most birds, do not reject those covered with hair. In fact, cuckoos eat so many hairy caterpillars that the hairs pierce the inner lining of the stomach and remain there, so that when the stomach is opened and turned inside out, it appears to be lined with a thin coating of fur.

boring larvae, which are accurately located, dislodged, and devoured by the woodpecker.

The woodpeckers seem the only agents which can successfully cope with certain insect enemies of the forest, and, to some extent, with those of fruit trees also. For this reason, if for no other, they should be protected in every possible way.

The Nighthawk

The nighthawk, or bull-bat, may be seen most often soaring high in air in the afternoon or early evening. It nests upon rocks or bare knolls and flat city roofs.

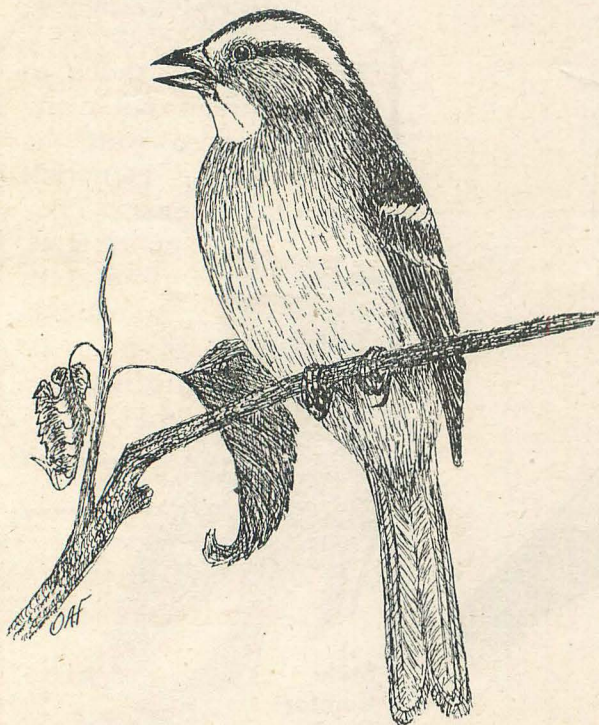
Its food consists of insects taken on the wing; and so greedy is the

kind, and when the death of every female means the loss of hundreds, or perhaps thousands, of the next generation. In this work nighthawks rank next to, or even with, the woodpeckers, the acknowledged ant-eaters among birds.

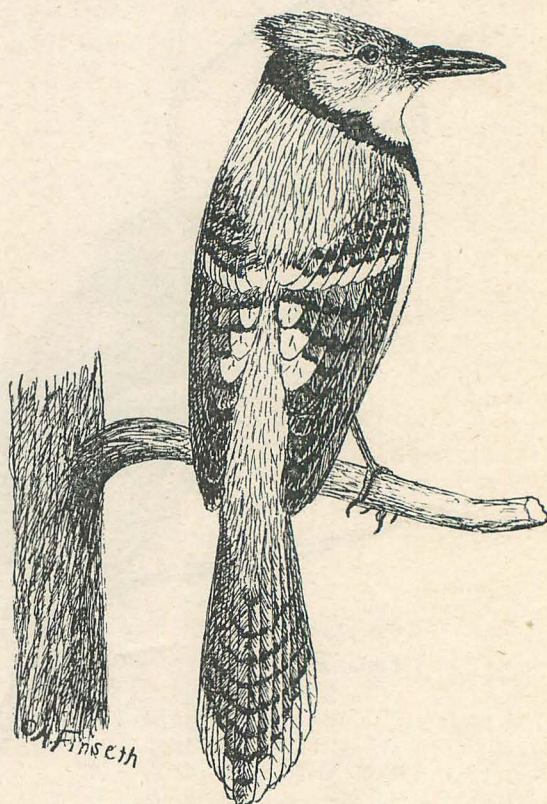
From these glimpses of the food habits of the nighthawk it is evident that it is one of our most useful birds.

The Kingbird

The kingbird is essentially a lover of the orchard. It breeds in the states east of the Rocky Mountains, and less commonly in the Great Basin and on the Pacific Coast. Its antipathy for hawks and crows is well known, and for this reason a family of



White-throated Sparrow



Blue Jay

The Woodpeckers

Five or six species of woodpeckers are familiarly known thruout the eastern United States, and in the West are replaced by others of similar habits. Several species remain in the Northern States thru the entire year, while others are more or less migratory.

Farmers are prone to look upon woodpeckers with suspicion. When the birds are seen scrambling over fruit trees and pecking holes in the bark, it is concluded that they are doing harm. Careful observers, however, have noticed that, excepting a single species, these birds rarely leave any conspicuous mark on a healthy tree, except when it is affected by wood-

bird that when food is plentiful, it fills its great stomach almost to bursting. To ascertain the character of the food taken nearly 100 stomachs were examined, with interesting results. One of the most conspicuous elements was flying ants. Remains of these were found in 36 stomachs, in 24 of which the number ranged from 200 to 1,800. While ants have at times a useful function, they are for the most part annoying and harmful insects. It is evident that they would be much more numerous than they are were not their ranks so severely thinned by the attacks of the nighthawks. Moreover, these ants are killed at the most important epoch of their lives, when they are preparing to propagate their

kingbirds is a desirable adjunct to a poultry yard. On one occasion within the knowledge of the writer a hawk which attacked a brood of young turkeys was pounced upon and so severely buffeted by a pair of kingbirds whose nest was near by that the would-be robber was glad to escape without his prey. Song birds that nest near the kingbird are similarly protected.

In its food habits the kingbird is largely insectivorous. It is a true flycatcher by nature, and takes on the wing a large part of its food. It does not, however, confine itself to this method of hunting, but picks up some insects from trees and weeds, and even descends to the ground in search of

myriapods or thousand legs. The chief complaint against the species is that it preys largely upon honeybees; and this charge is made by both professional bee keepers and others. One bee raiser in Iowa, suspecting the kingbirds of feeding upon his bees, shot a number near his hives; but when the stomachs of the birds were examined by an expert entomologist, not a trace of honeybees could be found.

Three points seem to be clearly established in regard to the food of the kingbird—(1) that about 90 per cent consists of insects, mostly injurious species; (2) that the alleged habit of preying upon honeybees is much less prevalent than has been supposed, and probably does not result in any great damage; and (3) that the vegetable food consists almost entirely of wild fruits which have no economic value.

The Arkansas Kingbird

The Arkansas kingbird of the western United States is not so domestic in its habits as its eastern relative, preferring to live among the scattering oaks on the lonely hillside, rather than in the orchard about the ranch buildings. The work it does, however, in the destruction of noxious insects fully equals that of any member of its family. Like other flycatchers, it subsists mostly upon insects taken in midair, tho it eats quite a number of grasshoppers that are probably taken from the ground. The bulk of its food consists of beetles, bugs (Hemiptera), wasps, and wild bees.

The Phoebe

Among the early spring arrivals at the North, none are more welcome than the phoebe. Tho naturally building its nest under an overhanging cliff of rock or earth, or in the mouth of a cave, its preference for the vicinity of farm buildings is so marked that in the more thickly settled parts of the country the bird is seldom seen at any great distance from a farmhouse, except where a bridge spanning a stream affords a secure spot for a nest.

The phoebe subsists almost exclusively upon insects, most of which are caught upon the wing. An examination of 156 stomachs showed that over 93 per cent of the year's food consists of insects and spiders, while wild fruit constitutes the remainder. The insects belong chiefly to noxious species, and include many click beetles, May beetles, and weevils. In their season grasshoppers are eaten to a considerable extent, while wasps of various species, many flies of species that annoy cattle, and a few bugs and spiders are also eaten regularly.

It is evident that a pair of phoebes must materially reduce the number of insects near a garden or field, as the birds often, if not always, raise two broods a year, and each brood numbers from four to six young.


There is hardly a more useful species about the farm than the phoebe, and it should receive every encouragement. To furnish nesting boxes is unnecessary, as it usually prefers a more open situation, like a shed, or a nook under the eaves, but it should be protected from cats and other marauders.

The Blue Jay

The blue jay is a common bird of the United States east of the Great Plains. Thruout the year it remains in most of its range, tho in the Northern States its numbers are somewhat reduced in winter.

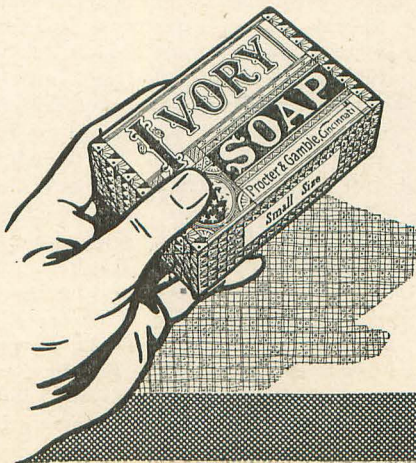
In an investigation of the food of the blue jay 300 stomachs were examined, which showed that animal matter comprised 24 per cent and vege-

table matter 76 per cent of the bird's diet. Special search was made for traces of birds or birds' eggs in the stomachs, with the result that shells of small birds' eggs were found in three and the remains of young birds in two. Such negative evidence is not sufficient to controvert the great mass of testimony upon this point, altho it shows that the habit is not so widespread as believed. Besides birds and their eggs, the jay eats mice, fish, salamanders, snails, and crustaceans, which altogether constitute but little more than 1 per cent of its diet. The insect food is made up of beetles, grasshoppers, caterpillars, and a few species of other orders, all noxious, except some $3\frac{1}{2}$ per cent of predaceous beetles. Thus something more than 19 per cent of the whole food consists of harmful insects. In August the jay, like many other birds, turns its attention to grasshoppers, which constitute during that month nearly one-fifth of its food. At this time, also, most of the other noxious insects, in-



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cluding caterpillars, are consumed, tho beetles are eaten, chiefly in spring.

The Crow

In estimating the economic status of the crow, the bird should receive much credit for the insects which it

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destroys. In the more thickly settled parts of the country it probably does more good than harm, at least when ordinary precautions are taken to protect young poultry and newly planted corn against its depredations.

The Sparrow

Sparrows are not obtrusive birds, either in plumage, song, or action. There are some forty species, with nearly as many subspecies, in North America. Not more than half a dozen forms are generally known in any one locality. All the species are more or less migratory, but so widely are they distributed that there is probably no part of the country where some cannot be found thruout the year.

While sparrows are noted seed eaters, they do not by any means confine themselves to a vegetable diet. During the summer, and especially in the breeding season, they eat many insects, and feed their young largely upon the same food.

The snowbird and tree sparrow are perhaps the most numerous of all the sparrows.

Examination of many stomachs shows that in winter the tree sparrow feeds entirely upon seeds of weeds. Probably each bird consumes about one-fourth of an ounce a day. In an article contributed in 1881 to the New York Tribune the writer estimated the amount of weed seed annually destroyed by these birds in Iowa. Upon the basis of one-fourth of an ounce of seed eaten daily by each bird, and supposing that the birds average ten to each square mile, and that they remain in their winter range two hundred days, we shall have a total of 1,750,000 pounds or 875 tons, of weed seed consumed in a single season by this one species.

The Swallows

There are seven common species of swallows within the limits of the United States, four of which have abandoned to some extent their primitive nesting habits and have attached themselves to the abodes of man.

In the eastern part of the country the barn swallow now builds exclusively under roofs, having entirely abandoned the rock caves and cliffs in which it formerly nested. More recently the cliff swallow has found a better nesting site under the eaves of buildings than was afforded by the overhanging cliffs of earth or stone it once used and to which it still resorts occasionally in the East, and habitually in the unsettled West. The martin and the white-bellied swallow nest either in houses supplied for the purpose, in abandoned nests of woodpeckers, or in natural crannies in rocks.

Field observation will convince an ordinarily attentive person that the food of swallows must consist of the smaller insects captured in mid-air, or perhaps in some cases picked from the tops of tall grass or weeds. This observation is borne out by an examination of stomachs, which shows that the food consists of many small species of beetles which are much on the wing; many species of Diptera (mosquitoes and their allies), together with large quantites of flying ants and a few insects of similar kinds. Most of these are either injurious or annoying, and the numbers destroyed by swallows are not only beyond calculation, but almost beyond imagination.

Barn swallows may also be encouraged by cutting a small hole in the gable of the barn, while martins and white-bellied swallows will be grateful for boxes like those for the bluebird, but placed in some higher situation.

The Bobolink, or Ricebird

The bobolink is a common summer resident of the United States, north of latitude 40 degrees, and from New England westward to the Great Plains, wintering beyond our southern border. In New England there are few birds, if any, around which so much romance clusters; in the South none on whose head so many maledictions are heaped. The bobolink, entering the United States from the south at a time when the rice fields are freshly sown, pulls up the young plants and feeds upon the seed. Its stay, however, is not long, and it soon hastens to the North, where it is welcomed as a herald of summer. During its sojourn in the Northern States it feeds mainly upon insects and small seeds of useless plants; but while rearing its young, insects constitute its chief food, and almost the exclusive diet of its brood. After the young are able to fly, the whole family gathers into a small flock and begins to live almost entirely upon vegetable food. This consists for the most part of weed seeds, since in the North these birds do not appear to attack grain to any great extent. They eat a few oats, but their stomachs do not reveal a great quantity of this or any other grain. As the season advances they gather into larger flocks and move southward, until by the end of August nearly all have left their breeding grounds. On their way they frequent the reedy marshes about the mouths of rivers and on the inland waters of the coast region, and subsist largely upon wild rice. After leaving the Northern States they are commonly known as reed birds, and becoming very fat are treated as game.

Seasonable Receipts

Chicken Salad for Seventy-five

Yolks of eighteen eggs, one-half cup of mustard, one tablespoon sugar. Mix mustard and sugar and dissolve with a little hot water. Add to the beaten eggs a pinch cayenne pepper, five teaspoons salt, eight tablespoons oil, one and one-half cup vinegar, one and one-half cup butter, juice of four lemons. Cook till thick. When perfectly cold add one quart whipped cream. For this dressing prepare four large chickens, twelve heads celery. This will serve seventy-five persons.

Dainty Tea Rolls

Roll out and cut as for biscuit a good baking-powder dough. In the center of each biscuit place a spoonful of jelly, marmalade, mincemeat or sandwich filling of any kind; roll them up and bake. Serve either hot or cold.

Salmon Turnovers

Make a light dough as for shortcake. Take one can of salmon and remove liquid and bones, one can of green peas. Roll out a disk of dough about six inches across. Fill with one tablespoonful of salmon, one tablespoonful of peas, a little salt and pepper, bits of butter. Moisten the edges with cold water, turn over, and press together with a fork. Bake in moderate oven until delicate brown.

Scalloped Salmon

One can of salmon, four tablespoonfuls of butter, two tablespoonfuls of flour, one and one-half pints of milk, one teaspoonful salt. Cream butter and flour together, add the milk, and cook until thick. Butter the baking dish, cover the bottom with fine cracker crumbs (or flaked hominy), add a layer of salmon picked apart and bones removed. Then add a layer of cracker crumbs (or hominy), alternating with salmon. Pour the hot dressing over it. Place in the oven and bake twenty minutes.

Creamed Salmon

Make a good white sauce by rubbing a tablespoonful of flour into a tablespoonful of melted butter; when smooth add one cup of cold milk, and stir while it is cooking; add one can of salmon separated into small pieces; if the sauce seems too thick, add a little of the liquor from the fish; serve this on soft buttered toast or square soda crackers; this may be varied by adding one-half teaspoonful of curry powder to the sauce, rubbing

it in with the flour and butter; serve for breakfast, dinner, or supper. It can be prepared in ten minutes. Is also good for dinner with mashed or baked potatoes.

Chicken and Macaroni

Butter a baking dish and put in a layer of cooked macaroni then layer of cold chicken, cut rather fine, then a thin layer of tomato sauce well seasoned. Repeat till dish is filled, having macaroni last. Cover with bread crumbs and bits of butter and brown in the oven.

To Cook a Flank Steak

Make dressing as for any meat. First score the meat with a sharp knife, not cutting clear thru. Season lightly with salt and pepper. Spread dressing out thinly and roll. Tie with twine to hold. Take a small pan and heat some butter till brown. Put in the meat and brown on both sides. Then put in a little water; put in oven and bake slowly about two hours.

Burnt Sugar Cake

One cup granulated sugar; put in skillet and burn, then put in about one-half cup of water and put back on the fire and boil until well mixed. It should be of the consistency of molasses.

One and one-half cup sugar, one-half cup butter, stir to a cream; yolks of two eggs, one cup water, two cups flour. Stir five minutes. Then add the beaten whites of two eggs, one-half cup of flour with two teaspoons of baking powder, well mixed thru the flour, a spoonful of vanilla and half of the burnt syrup. Stir all well together and bake in two layers. Use the other half for frost.

Cinnamon Drops

One cup sugar, one cup lard or butter, one cup molasses, two eggs, one cup boiling water, one teaspoon each soda and cinnamon, one-half teaspoon nutmeg, four cups flour, one cup currants, raisins or nuts.

Molasses Cookies

One and one-half cup molasses, one cup sugar, one large cup lard, one cup sour milk, one tablespoon ginger, large teaspoon soda. Enough flour to roll out.

Tapioca Pudding

Soak three tablespoons tapioca, drain and add to one quart boiling milk. Cook till clear. Beat yolks of four eggs with one cup sugar; add

three tablespoons cocoanut, pinch of salt. Frosting of whites with three tablespoons sugar. Brown in oven.

French Toast

Three eggs, one cup sweet milk, pinch salt, a very little flour. Take slices of bread and dip in batter and fry in butter and lard mixed. Brown well on both sides.

WHAT FLOWERS TO PLANT

"The Farmer's Wife" gives the following list of flowers suited to different locations which may be helpful to some who are in doubt as to just what will do best in the particular soil or exposure to sunshine of their flower beds.

Flowers for Sunny Southern Exposure

If the water is scarce—Zinnias, verbenas, nicotina, sweet alyssum. If the well is handy, or if you can give them all of the waste water from the kitchen—Phlox, dahlias, gladioli, etc.

When the Back Yard is North of the House

Pansies, forget-me-nots, ferns, wild wood's flowers, creeping myrtle. Trumpet creeper for a vine. All of these need a good deal of moisture.

If the Soil is Poor and Sandy

Nasturtiums, moss rose (portulacca), wild cucumber for a vine. Portulacca will grow on a sand pile. Do not plant until the weather is warm and settled.

When the Back Door Faces East

If the soil is rich and the drainage good, roses should do well. Sweet peas, mignonette, phlox, in fact almost anything likes this condition of sun for half a day.

BAKER'S COCOA Is Good Cocoa



Of fine quality, made from carefully selected high-grade cocoa beans, skillfully blended, prepared by a perfect mechanical process, without the use of

chemicals or dyes. It contains no added potash, possesses a delicious natural flavor, and is of great food value.

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Why "Mound City" House Paint HOLDS Its Gloss

WHY do you see so many dull,
faded-looking houses?

The trouble with such houses is that they are Oil-hungry. They are painted with a paint that has not enough Linseed Oil in it—a paint that never *could* have enough Oil in it on account of the character of the pigments used.

The best Paint *must* do two things. It must preserve and beautify. Do you know that Linseed Oil is *the* great preservative in Paint and that if it were not for the sake of appearance, you could give your house a coat of pure Linseed Oil, and it would be protected?

The solid part of Paint (Strictly Pure White Lead, Strictly Pure Zinc, and, in some Paints, baser metals) acts as beautifier only.

Strictly Pure Zinc absorbs more Oil than any other pigment and that is the reason for its use in Horse Shoe Paint. WHITE LEAD is used for its covering qualities, and ZINC for its *Oil-carrying* capacity.

And Oil-carrying capacity is what your Paint *must have* if your property is to be protected.

Horse Shoe Paint, while it covers and beautifies the surface thoroughly, is made of pigments that carry so much oil, that the *first* coat satisfies the oil-hunger of the wood leaving the second coat to gloss, harden, protect, and beautify.

That's why Mound City Horse Shoe Brand House Paint HOLDS its gloss.

Mound City Paint & Color Co.

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St. Louis, U. S. A.